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THE THERAPEUTIC USES OF INSULIN

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History of Insulin

It was known long ago that if the pancreas was removed from an animal, the animal suffered from hyperglycæmia and diabetes. With this idea Sir Frederick Banting of Toronto, Canada, the discoverer of insulin, started making experiments with dogs to find out a substance from the pancreas, which would prevent diabetes. He was then working with his pupil Best, whose name is also associated with the discovery of insulin. They made an extract from chopped pancreas and injected into depancreatised animals and found that blood-sugar was lowered. In 1922 the crude product was named as insulin, and used therapeutically in human diabetics. Banting said that the crude product often caused local necrosis and ulceration, but it was more effective than the pure product now obtainable. The first manufacturer of insulin was Lily Company of America. It is now manufactured by numerous chemists in different parts of the world, so widespread has been its use in recent years.

Pharmacological Action

Insulin is a compound of complex chemical formula and is derived from the B cells of islets of Langerhans of the pancreas. It is standardised so that three units lower the blood-sugar of a fasting rabbit of 2 kilogrammes to ·045% in 2 hours. The main actions of insulin are (1) to increase the capacity of the tissues to metabolise sugar, (2) to enable the liver and muscles to store glycogen, (3) to prevent formation of sugar from proteins. Insulin is best given by hypodermic injection. In urgent cases it may be given by intravenous injection.

Therapeutic Indications

I. *Diabetes mellitus*

(a) Uncomplicated cases—Insulin is only necessary in diabetics if the urinary and blood-sugar cannot be lowered by diabetic regulations or if the patient is losing weight in a diet which keeps his blood-sugar to a normal figure. Small dose of insulin together with increase of carbohydrates in the diet will help the patient to keep his weight steady or to increase it, if necessary.

(b) Non-operative infections in diabetics—They are always serious and the use of insulin is absolutely necessary even in patients who are not having insulin injections. Infection raises metabolism and destroys

insulin, which is being produced in the body and so is the necessity of increasing the dose of insulin. If a diabetic is having 20 units of insulin daily and he gets an attack of pneumonia or influenza or multiple abscesses, the dose of insulin should be raised to 25 or 30 units daily according to the severity of the condition. If the dose is not increased there is every chance of the patient developing coma and consequent fatal result.

(c) Operation on diabetic patients—The patient should always receive injections a few days before operation. If the case is to be operated urgently, the patient should receive an injection of 15 units of insulin and an ounce of glucose about 2 hours before operation. One unit of insulin can metabolise 2 grammes of glucose. Hence in cases where it is doubtful whether the patient has sufficiently high blood-sugar, it is preferable to give glucose with insulin. This helps in destroying the acetone bodies in blood.

(d) Acidosis and coma—This is the most serious complication of diabetes. It is recognised by the following signs and symptoms:—dry and furred tongue, anorexia, restlessness, feeling of excessive fatigue, dizziness, abdominal discomfort in 33% of cases, prolonged and painful breathing (air-hunger), smell of acetone in breath, low blood pressure and low tension of the eye-ball, temperature subnormal, later unconsciousness supervenes.

Treatment—The patient should be kept warm in bed wrapped with blankets. Prompt injection of insulin should be given. Blood-sugar is generally high and hence give 50 units of insulin intravenously. If there is any doubt as to the presence of high blood-sugar, give 100 grammes of sugar by mouth or intravenously. Withdraw urine by catheter and test for sugar. The urine in the first three hours contains sugar. If consciousness does not return after 3 hours inject 10 units of insulin every hour and give 20 grammes of glucose by mouth or intravenously; a part of the amount can be given per rectum also. Not more than 10 ounces of fluid should be given at one time as there is chance of water-logging of the lungs. The continuation of insulin injection should be decided by the clinical condition of the patient.

Castor oil 2 ounces should be given with the first drink as these patients are frequently constipated. If the patient cannot swallow an enema should be given. Sodium bicarbonate should be given by mouth and the dose should not exceed 3 drachms.

Cardiac stimulants such as digitalin gr. 1/100 or stropanthin gr. 1/250 should be given to combat central circulatory failure and ephedrine hydrochloride gr. ½ in 1 c.c. to combat peripheral circulatory failure.

Every patient should be examined for the presence of septic foci e.g. otitis media or abscesses as the infection tends to bring about coma.

II. *Hyperemesis gravidarum*

Insulin injections with glucose are necessary to destroy the toxins in the system. Continued vomiting gives rise to acidosis, which can be got rid of by insulin. No insulin should be given in the early stage as it is then a reflex phenomenon.

III. *Anorexia nervosa*

Recently good many cases have been treated with insulin injections. Insulin produces hypoglycæmia and hence sensation of hunger is produced. The patient feels inclined to take food and once the vicious circle is broken the patient continues to have more food. Five units of insulin should be given once daily.

IV. *Malnutrition*

In cases of thin people, who do not put on weight by adequate diet, small doses of insulin may be given. This increases the metabolism and the patient can take more carbohydrates and consequently can put on weight.

V. *Angina pectoris*

In angina pectoris the metabolism of the heart is diminished owing to narrowed lumen of coronary artery due to atheroma. Insulin and glucose are given to increase metabolism. Some cases of angina pectoris have responded very well to this treatment.

VI. *Hepatic insufficiency*

In cases of liver diseases when the hepatic function fails, certain toxins are produced in the body. Insulin and glucose may be given to detoxicate the patient. Insulin is useful in milder types of cases. In other cases it is of no use. However, it is the only weapon which can be used in such cases as there is no other satisfactory treatment.

VII. *Cirrhosis of liver*

Recently insulin has been used in America in cases of cirrhosis of liver with success. Three months' treatment with insulin 15 units t.d.s. and carbohydrate intake of 400 grammes daily was given and paracentasis was discontinued after a year of tappings. When the patients were seen later, there was no ascites.

Dangers of Insulin

1. *Hypoglycæmia*

A large dose of insulin may cause hypoglycæmia if the patient does not take food soon after injection. Symptoms of hypoglycæmia are manifested by feeling of apprehension, tremor, sweating and flushing of face, hunger pain, convulsions and finally coma. Such a case should be treated by giving glucose or orange juice by mouth or if the patient cannot swallow, glucose should be given by intravenous injection. Adrenalin hydrochloride m x or pituitrin 1 c.c. may also be given by injection as it mobilises the glycogen of the liver and supplies sugar to the blood.

2. *Insulin œdema*

Some cases of œdema have been reported after insulin injections. They are not due to cardiac or renal causes. The œdema disappears after insulin and is discontinued. It is probably due to the fact that intake of excess of carbohydrate enables the tissues to hold more water.

Insulin and Exercise

Exercise exerts a profound effect on the diabetic. Even before the use of insulin it was known that the mild diabetic was improved and severe diabetic made worse by exercise. Insulin secretion is increased in mild diabetics after exercise, whereas severe diabetics secrete practically no insulin. Hence when the patient is taking exercise the dose of insulin should be reduced and when he is idle the dose should be increased.

Conclusion

Finally it must be mentioned that the inauguration of insulin era since 1922 has marked a step forward in therapeutics, which has proved beneficial to a vast number of people in the world. Insulin is however not the ideal drug for the diabetics. More improvement is expected in future when the specific drug will be discovered. In the meantime we should remain satisfied with what we have got and make the best use of it.*

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PROSTATIC OBSTRUCTION

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The shape of the prostate is like the fruit of cashewnut or big onion or chestnut; size varies—1″ broad side to side; 1¼″ from above below; 1½″ front to back; against the triangular ligament—apex downwards and forwards. Its base is beneath the base of bladder (anterior half of trigone); concave slightly and to neck of bladder and tips of seminal vesicles. Posterior surface—somewhat flat on rectum, has a longitudinal median groove. Two lateral surfaces in contact with levator ani muscles. Apex lies on triangular ligament and blends with musculature of membranous urethra; many fibres of levator ani muscles end on prostate. Therefore prostate is outside the pelvis and lies in the cleft of the pelvic diaphragm. Normal weight ⅓ to ½ oz. *i.e.* 10 grms. to 20 grms. It surrounds first part of urethra, lies between symphisis pubis and rectum, and has the base of bladder resting on it.

Prostatic urethra is 1¼″ long, pierces it from base to apex anterior to the central axis of gland. Therefore, a small part of gland lies in front and a large part behind the urethra. Fully distended, it is fusiform in outline. If empty, anterior and posterior walls are in contact. Elevation of verumontanum, sinus pocularis containing openings of prostatic ducts 15 to 20 in number. Ducts of anterior lobe open in the roof of urethra opposite verumontanum.

Two ejaculatory ducts reaching verumontanum bend upwards and dip downwards immediately, open on each side of sinus pocularis or utriculus masculinus.

Five Lobes. Two lateral; one anterior, in front of urethra, small; one posterior, behind ejaculatory ducts; and one middle, between the urethra and ejaculatory ducts. Prostate is developed from 5 outgrowths from the urethra.

Histology

Compound tubular gland; stroma of involuntary muscle-fibres and fibrous tissue. These tissues vary a lot. In adults, five of gland-tissue to one of supporting tissue. Each tubule surrounded by unstriped muscle tissue, striped muscle also found. Tubules are scanty in anterior lobe; posterolateral lobes contain the largest amount of gland tissue.

Sheath of Prostate.

(1) Capsule of fibrous tissue closely adherent to gland tissue superficially; this capsule blends with the muscle and fibrous tissues of bladder and the sphincter vesicæ muscle lying at the junction of bladder and urethra. These are defined in front as pubo-prostatic ligaments.

(2) A well-defined sheath of fibrous tissue lies interposed between prostate and rectum, *i.e.* fascia of Denonvillier. This sheath (fascia of Denonvillier) is attached below to the apex of prostate and to the triangular ligament; above it blends with peritoneum at the rectovesical pouch. Behind, loosely attached to rectum. In front, it is closely adherent to seminal vesicles and to the true capsule of prostate.

It is between the fascia of Denonvillier and the rectum that dissection is carried out in perineal prostatectomy.

Vessels, Nerves and Lymphatics.

Arteries—Many, but trifling branches of (1) Internal pudic, (2) Middle hæmorrhoidal and (3) more blood supply from Inferior vesicle. Free anastomosis between the two sides.

Veins lie chiefly on anterior and lateral surfaces of gland. This is the plexus of Santorini. Receiving the dorsal veins of penis, related to the veins of the urethra, they finally empty into the internal iliac veins.

Lymphatics—Deep set lies in the acini.

Superficial set lies between capsule proper and outer fascial sheath; drains into the obturator, lymphatic glands on pelvic wall and into the glands on internal iliac vessels; closely connected with the lymphatics of the bladder, of the seminal vesicles; and linked to the periurethral lymphatics. Here is

the route for the spread of infection after prostatectomy, or for the spread of cancer of the prostate.

Nerves largely from the sympathetic system, through the hypogastric plexus, and a few medullated fibres probably from the anterior roots of S_3 and S_4. Pain impulses travel along the presacral nerves; and resection of these sometimes gives relief in painful conditions of prostate.

Development

(1) From condensation of mesoblastic tissues,—muscle and fibrous tissue.

(2) From urogenital sinus—epithelial tissue outgrowths from posterior urethra in 5 groups, most of the growth is due to the lateral lobes.

Rectovesical pouch of peritoneum descends as a serous pouch between rectum and prostate, gets obliterated and the two layers form the fascia of Denonvillier.

Growth.

Most active in adolescence—mostly, the lateral lobes. At 30 years, maximum size. At 40 to 60 "enlarges"—pathological. Beyond 60, it shrinks like every other tissue.

Physiology

Physiology of the gland-portion.

A sex-gland. Activates the testicular function of spermatogenesis, and depends on the testicular function in its turn. Not only the living, but the activation, of spermatozoa is due to its secretion, which is conducive to fertility. Similar to seminal vesicles. (Both of these undergo atrophy on castration). Overlapping of function.

Secretion—thin opalescent fluid—(a) External secretion which activates growth. (b) Internal secretion which promotes general metabolism.

Physiology of the muscle-portion.

Urination and Ejaculation; any disease of it affects micturition and ejaculation.

Patients complain of interference with micturition.

Micturition.

Internal sphincter of bladder (circular band of unstriped muscle) surrounds internal meatus, helps to retain urine in the bladder. It is continuous with the circular coat of urethra. It (the sphincter) lies above the level of prostate. In pathological enlargement of the prostate the sphincter muscle becomes displaced outwards by the upward growth of prostate, and encircles the prostate-growth like a collar, marking the growth into intra-vesical and extra-vesical portions. The channel of urethra behind this obstruction or constriction elongates. The internal sphincter muscle becomes unable to prevent escape of urine. Besides the internal sphincter, accessory muscles help retention, the compressor urethræ muscle and extrinsic muscles of urethra, lying between the 2 layers of the triangular ligament encircling urethra. The compressor urethræ is very important, and is composed of voluntary muscles. After prostatectomy this compressor urethræ acts efficiently as the sphincter of the enlarged conical cavity of bladder and prostate.

Effects of "enlargement" of the Prostate

1. *On the urethra.*

Enlargement occurs upwards (line of least resistance) owing to resistance of triangular ligament, towards the base of bladder, carrying the base of bladder with it. Urethra gets elongated. A right-angled curve forms, distortion occurs. Longer catheter with extra curve is required. Narrowing also occurs sometimes. A 'middle lobe' develops, behind the internal meatus, sometimes blocking it. Therefore special bend of catheter is required.

2. *On the bladder.*

Increasing difficulty to expel urine, hypertrophy of muscular wall, dilatation of bladder, fasciculation, vesiculation and fibrosis of muscle bundles. Projection of prostate into bladder leads to the formation of a pouch behind it. Therefore the orifice of the internal meatus *is not* the lowest point of bladder. This leads to 'residual' urine, deepening pouch, stagnation and infection, and stone formation, behind the enlarged 'middle' lobe.

3. *On ureters and kidneys.*

Like other causes of obstruction, *e.g.* stricture, but more progressive. Orifice dilated, muscular guard weakened. Pelvis dilated. Interstitial fibrosis of kidneys, pyelonephritis, renal insufficiency and sepsis.

4. *Inflammatory effects.*

Sooner or later, *sepsis* from instrumentation or bloodborne, in a weakened patient; cystitis, ureteritis, pyelitis and pyelonephritis.

5. *Effects on circulation.*

Veins of periprostatic plexus become dilated by the increasing pressure of the enlarging new-growths, and become varicose; rupture of any of these causes profuse hæmaturia.

6. *Effects on sexual organs.*

The common ejaculatory ducts may become distorted and compressed, seminal vesicles dilated, even aspermia may result.

7. *Effects on the act of micturition.*

The increasing obstruction at orifice leads to increasing difficulty.

The chief difficulty is in starting the act.

Easier if no effort is made.

Diminished force of stream projected hardly beyond the feet owing to weakening of bladder-muscle and absence of effort. Bladder not fully emptied. ' Residual ' urine.

8. *Effects on general health.*

General health may be good for years, but becomes impaired by loss of sleep due to getting up often at nights, infection and exhaustion and pain, and effects of back-pressure on kidneys—state of chronic uræmia. (Headache, thirst, drying and furring of tongue, anorexia and polyuria). If infection is superadded, these effects become aggravated—loss of flesh and strength.

Symptoms of Prostatic Enlargement

Early stage—Complains of increasing difficulty and frequency of micturition—difficulty most marked at beginning—urination is then found to be made most easy if there is no straining and by mere waiting.

Late stages—(1) Frequency, first at night (nocturnal polyuria), then at day time also.

(2) Force of stream fails—no projection at all.

(3) The difficulty is increased by cold, excess of alcohol or venery, constipation, holding urine longer while in society or engagements.

(4) Increased sexual desire, persistent erections, acts of impropriety.

(5) The amount voided diminishes, 'residual' amount increases.

(6) Bladder constantly distended. Incontinence of overflow.

But any of the following complications may change the picture:—

(a) Complete retention—due to congestion of the prostatic plexus of veins and of urethral mucosa induced by cold, excess of alcohol and venery or prolonged holding of urine (in society or long railway journeys).

(b) Severe hæmorrhage in urine from prostatic plexus of veins.

(c) Cystitis—pain, frequency, and pyuria.

(d) Calculus—in bladder, pain, bleeding and pus.

(e) Prostatic abscess—very rarely.

Physical Examination

Rectal Examination—Large soft mass pressing backwards into rectum; or firm slightly enlarged mass. In either case, the mass is smooth, and rectal mucosa moves easily on the prostate; enlargement not always bilateral, occasionally one or other lateral lobe only enlarges, ' middle lobe ' not palpable.

Urethral Examination.

(i) Catheter feels obstruction at entrance into bladder. Urethra lengthened, curve of passing the instrument has to be altered by lowering the handle to slip past the obstruction. The catheter *not* gripped on removal (as it is by a stricture).

(ii) Cystoscope useful. Shows the enlarged ' middle lobe,' the condition of bladder walls fasciculation, mouths of ureters, pouching, and stones.

(iii) Residual Urine—Let patient pass urine, then catheterise, the amount varies, the average of many readings must be taken. This is of great import.

(iv) Kidneys—Analysis of 24 hours' urine—pus, bacteria, casts, crystals.

Blood-pressure must be taken.

Blood-urea and urea-concentration and water-elimination tests must be done.

Disabilities of a Prostate Case

(1) Stoutness—big belly.

(2) Therefore penile meatus cannot be seen, and self-catheterisation—very difficult or impossible—Asepsis not possible.

(3) Bronchitis, emphysema, weak heart, sclerosed vessels, herniæ, piles, constipation, anorexia, insomnia, uræmia, high B. P., thrombosis.

Treatment

(A) General Treatment.
(B) Operative Treatment.

(A) *General Treatment.*

This must be tried first, well and long enough. Avoid all causes of congestion—excess of alcohol and venery; long hours in meetings or journeys, or functions; constipation, horse-riding, cycling, and highly spiced food, or late and irregular meals, or exposure to chill.

He must drink freely non-alcoholic liquids · exercise must be adequate to his capacity,—regular simple life—can live in comfort for years, without catheterisation or operation.

Catheterisation. Only when absolutely necessary, strict asepsis. Catheterise for acute retention.

Treatment of acute retention before prostatectomy.

(1) Full doses of hexamine by mouth *i.e.* 10 to 15 grs. t.d.s.

(2) Catheterisation, letting out 10 oz. every 2 hours until the bladder muscle regains tone.

(3) A second attack of acute retention should not be allowed to come on.

(4) If regular catheterisation impossible, permanent in-lying catheter for 1 or 2 days.

(5) If catheterisation fails, supra-pubic aspiration followed by catheterisation and tying in a catheter.

If two or three of these aspiration fail.

(6) Supra-pubic cystotomy and drainage.

(7) Later, when kidneys are working well, prostatectomy.

For Chronic Retention—catheterise, but at long intervals. If the bladder is much dilated, if it is small or irritable, if there is muscle-spasm, catheterise often. Life is possible with comfort for years, and active life too; sterilisation of the catheters is most important. They must have a large curve, coude or bi-coude, and must be soft or gum-elastic. Metal catheters rarely, only if the soft ones would not go in.

Permanent catheterisation—difficulty and pain in instrumentation owing to cystitis, or associated with bleeding.

Soft retaining-catheter tied in—wash the bladder once or twice daily for several days.

The patient must be in bed at first, and later, up with suitable apparatus, emptying the bladder every two or three hours. Treat cystitis with washing out bladder, regularly, with aseptic instruments, and antiseptics by mouth.

(B) *Operative Treatment.*

I. Suprapubic, by enucleation or II. Perineal, by dissection, or III. Urethral, by punching off.

I shall deal with the suprapubic operation only, as I have not done the perineal or urethral operations.

Most surgeons think that in this operation of enucleation, only the adenomatous parts of prostate are easy to shell out, and that the gland proper remains behind as a 'false' capsule. Of course, some prostatic patients live in fair comfort for years with enough mental and bodily activity, if life is regulated, and with occasional catheterisation. But, many go downhill.

Difficulty in passing a catheter, hæmorrhage, cystitis, attacks of acute retention and the formation of calculi, are common, and cause much misery. Back-pressure on kidneys and infection of kidneys shorten life, and need operation; 10% of the removed prostates are cancerous. Early removal means cure. If not operated early, cancer ends in death; and late operation of cancerous prostatectomy may be impossible.

The large soft prostate is easier to shell out than the small hard fibrous one.

Shock and hæmorrhage are the serious immediate risks.

Indications for Prostatectomy

(1) Frequent micturition, loss of sleep, inability to take part in social life.

(2) Frequent catheterisation; difficult catheterisation; pain and bleeding during catheterisation.

(3) Residual urine of more than one ounce.
(4) Cystitis, calculus.
(5) Pyelitis, pyelonephritis of a moderate grade.

(6) Recurring attacks of acute retention.

(7) Hæmorrhage—seldom, the only indication.

Operable if (1) kidney function is good. (2) General condition is good. (3) The Prostate is soft and large.

Contra-indications for Operation

1. Chronic retention of urine of more than 10 oz.

2. Signs of failure of kidney function, low Sp. Gr. low concentration, albuminuria.

3. Severe sepsis, acute cystitis, chronic cystitis of severe grade, pyelitis with rigors, pyelonephritis and pyuria.

(Cystitis, unilateral pyelitis, pyelonephritis, and pyuria are not contra-indications, if Sp. Gr. is high).

4. Circulatory complications, myocardial changes, valvular disease—arterial degeneration (atheroma).

5. Pulmonary complications—Bronchitis, pneumonia.

6. Gastro-Intestinal complications, oral sepsis, flatulent distension of bowel, chronic constipation.

Permanent Contra-Indications.

1. Failure of preliminary treatment to remove some of the above complications, e.g. renal failure or inefficiency, low Sp. Gr. *i.e.* low concentration, albuminuria, renal sepsis, circulatory, respiratory, gastro-intestinal complications of severe grade e.g. uræmia (dry furred tongue, loss of appetite, thirst, headache, giddiness, polyuria, wasting).

2. Increasing general feebleness and wasting.

3. Extreme old age.

(Many very old persons e.g. 80 to 90 years of age were successfully operated on).

Age by itself is not an absolute contra-indication. But the feeble resistance and the shortness of longevity before them should be remembered.

Yet, complications, e.g. hæmorrhage, acute retention, sepsis, difficulty in catheterisation, may precipitate an operation (prostatectomy) which otherwise may be avoided.

Information required before performing Prostatectomy

1. General—full clinical notes on the condition of circulatory, respiratory, gastro-intestinal and nervous systems.

2. Prostate—examine rectally and bi-manually for leathery areas in an elastic prostate or hard irregular nodules, fixation of the gland or thickening of nodules along lymphatic path on either side and above the prostate. Cystoscopy may show an intra-vesical projection which palpation fails to detect.

Cystoscopy is unnecessary, and even injurious where the prostate is large.

3. Bladder—The amount of residual urine: condition of bladder wall by cystoscopy to distinguish between atony and obstruction when the prostate-changes are slight or moderate.

Is there a diverticulum? This is detected by the cystoscope, and affects the nature of operation.

Avoid cystoscopy if prostate is large, and if 'residual' urine is large, as unnecessary manipulation tends to kidney-shock.

4. Urine—Amount, sp. gr. sediment, composition, infection, easy voiding or much straining; control of urine.

5. Kidneys—Function-tests.

(i) Symptoms of renal failure.

(ii) Forced urea-elimination, or urea-concentration test. After giving 15 grm. of urea by mouth, the urea content of urine is estimated during the 1st, 2nd and 3rd hours. If it is over 2% function normal. If between 1 and 2% it is impaired; under 1% it is seriously damaged.

(iii) Color-tests, e.g. phenol sulphonophthalein and indigo-carmine may be used, but not so reliable as the urea tests.

(iv) The blood-urea content is usually between 20 and 40 m.g. per 100 c.c. of urine, but may be as high as 50 m.g. (per 100 c.c.) in old men. This test is used in combination with No. 2.

Preliminary Treatment before Prostatectomy

Of circulatory, respiratory, nervous and gastro-intestinal, besides the urinary systems.

Preliminary treatment of Urinary system.

That is of (1) Urinary infection and (2) Urinary obstruction, *i.e.* chronic retention with renal failure.

Mild grades of urinary infection.

Regular lavage of bladder through a catheter, with hexamine, salol, etc., by mouth; and if urine is alkaline, acid sodium phosphate and sodium benzoate by mouth.

Severe grades of infection.

Preliminary treatment of chronic urinary retention. Remove the urine and stimulate the kidneys with diuretics. Confined to bed: Bowels opened freely.

After 2 or 3 days, catheter is tied in, 10 oz. urine removed every 2 hours, until the bladder is made empty, and then continuously drained into a bottle. After one week of continuous drainage the question of prostatectomy or further period of drainage is considered.

If further drainage is necessary, do supra-pubic cystotomy: and when kidney condition is satisfactory, prostatectomy is done, *i.e.* it becomes a two stage operation.

Operative Treatment

(1) Early operation and (2) Two stages operation.

Early operation—*i.e.* removal of prostate before complications, e.g. septic infection, or so much 'residual' urine as to cause renal failure.

If (1) undoubted enlargement of prostate as found by rectal palpation and cystoscope, and if (2) residual urine of more than 1 oz. on several occasions, the prostate must be removed for the following reasons:—

1. Enlargement of prostate is a progressive disease.

2. Catheter-life has a higher mortality than prostatectomy.

3. Most cases of catheter-life of an 'enlarged' prostate end in 'prostate-operation,' owing to the increasing difficulty of passing catheter, bleeding in passing it or spontaneously, or sepsis.

4. The immediate and remote mortality of prostate-operation after catheter-life has failed, is greater than the mortality if catheter-life method alone has been used.

5. Malignant changes in about 10% of prostate cases.

Two stages operation—getting commoner.

1st stage—Cystotomy, drainage, air-tight drain, antiseptic washes.

2nd stage—in two weeks—enucleation.

Advantages:

1. Shock is reduced.
2. Hæmorrhage appreciably reduced.
3. Sepsis much reduced, if not fully abolished.
4. Relief of back-pressure, and time allowed for kidneys to improve and if possible to recover normal function.
5. Time gained for treatment of other complications e.g. Bronchitis, 'B. P.,' sepsis etc.

Disadvantages:

1. Two operations and twice anæsthetisation.
2. Longer time in hospital or nursing home.
3. Enucleation of the prostate more difficult owing to rigidity of abdominal walls and contraction of bladder.
4. Post-operative hernia more common.

Comments.

Shock is not a factor if rough handling, long exposure from wrong technique, and inadequate anæsthesia are avoided.

The difference is that the amount of hæmorrhage is about the same—better controlled in an 'open' operation.

Indications for the two-stages operation.

1. Chronic urinary retention and renal insufficiency after preliminary reduction of pressure in bladder and on kidneys by the catheter was done and has failed.

2. Sepsis of urinary tract persists after preliminary treatment has been done.

3. General condition unsatisfactory, e.g. lungs (bronchitis, or pneumonia), where catheter-life is difficult or impossible, heart, vessels, bowels, mouth, debility, etc.

Anæsthesia for Prostatectomy

1. Spinal or (2) local and a little general.

Over 60 years of age, high B. P. arterial degeneration, myocardial weakness, emphysema, chronic

bronchitis, chronic interstitial nephritis and chronic sepsis. Hence avoid $CHCl_3$.

Preliminary injection of morphine and atropine is useful before ' spinal ' or ' local.'

Spinal is followed by a fall in B. P. in the horizontal position. Trendelenburg's position helps to restore the blood pressure, 'spinal' is better than 'local.' Have adrenalin injection ready.

Complications after Prostatectomy

1. Hæmorrhage.
2. Shock and cardiac failure.
3. Pain.
4. Uræmia.
5. Sepsis.
6. Epididymitis.
7. Impairment of sexual function.
8. Persisting fistula.

(1) *Hæmorrhage*—during operation or after he is returned to bed, or during the second week.

Treatment.

(a) Irrigation—after he has returned to bed instil continual irrigation through catheter of 1/20,000 $Ag.No_3$ solution—rapid drop. For a week or so.

Morphia and calcium (10 grs. of lactate every 4 hours) Neo-hæmoplastin 1 c.c. daily. If it persists, pack bed of prostate.

(b) Packing—necessary at the end of operation or for late bleeding.

Anæsthetic is needed. Iodoform gauze round a catheter, tight filling.

Supra-pubic drain-tube replaced.

(c) Raise foot of bed, ¼ gr. morphin. Remove packing after 48 or 72 hours—withdraw or insert catheter so that its tip does not project into bladder: irrigate with $Ag.No_3$ solution 1/15,000.

(d) If bleeding again, repack it. Transfusion of blood very useful.

Pilcher's bag—not so effective, liable to cause sepsis.

(2) *Shock and cardiac failure.*

Shock due to hæmorrhage, rough handling and prolongation of operation.

Correct diagnosis is essential—whether this is a good case for enucleation—cancer should not be selected. Enucleation of a fibrous or cancerous prostate is wrong—Dissection by *open* supra-pubic, or perineal method, should be done. Generally they are 'poor risks' for prolonged anæsthesia. Tearing is very risky; small incision of abdominal wall or of the bladder is very bad.

Avoid shock by no tearing, by no delay in removal, by adequate incision—incision must be big enough for the fist to get into the bladder—by *visual open* dissection and by sufficient narcosis (spinal narcosis is preferable).

Treat the shock—Raise foot of bed: 3 m. of camphor-in-oil injection, radiant heat, injection of pituitary, rectal saline.

(3) *Pain*—caused by bladder-spasm to expel clots or pressure of the drainage tube on the trigone or spasm of the urethra to expel clots, etc., when the tube does not reach enough of the collected urine.

Avoid pain by (a) not inserting the tube too deep on to the trigone or too superficial.

(b) Not stitching tightly the bladder edges round the tube.

The 'open' operation avoids pain, as it fully controls hæmorrhage.

Treatment of pain—Soon after operation, give enema of 30 grs. ammon. bromide and 15 gr. aspirin in 2 oz. of warm water.

If restless, 1/6 to 1/3 gr. of morphin, repeated at night, if necessary.

Adjust the depth of the tube in the bladder.

(4) *Uræmia.* Most serious—fatal.

Avoid it by adequate pre-operative treatment for efficient renal function for a sufficiently long period. Avoid operating unless the kidneys are working well and stability of function has been gained.

Even then, *i.e.* even if prostatectomy is done after adequate preliminary treatment and preparation, uræmia may arise in the 1st few days, or arise gradually and develop slowly and end fatally after 3 or 5 weeks.

Treat the uræmia by (1) intravenous and subcutaneous injections of saline and glucose. (2) Thorium sodium acetate 10 grs. by mouth. (3) Pituitary injection—but be on the alert lest blood-pressure should rise and cause hæmorrhage. (4) Open freely the bowels. (6) Apply hot packs to the kidney regions.

5. *Sepsis*—Cystitis, pyelitis, epididymitis and pyelonephritis, B. coli infection, besides the usual streptococcal, and even saprophytic infection.

Avoid sepsis by adequate preoperative preparation.

(a) Avoid the rectal finger and handling of the rectum during enucleation.

(b) Avoid excessive handling within the bladder and bed of the prostate by making the abdominal incision sufficiently long, and the bladder incision—ditto—*i.e.* make the approach to the prostate easy.

(c) Cut out all shreds of mucous and other torn tissues under vision before closing the operation, *i.e.* do the '*open*' operation.

(d) Avoid stagnant pool of urine, blood and mucus in the bed of the prostate by tying in a catheter with its eye in the prostatic bed.

(e) Irrigate the whole cavity of bladder and prostate daily. If necessary, do continuous irrigation for many days.

(f) Dress the glans penis and external meatus with gauze soaked in iodoform glycerine and more so if the catheter is plugged. Observe rigid asepsis in handling the penis or the catheter.

(g) If the sepsis present before the operation persists after the operation, it is due to pyelitis, pyelonephritis, diverticula of bladder or seminal vesiculitis.

Treatment of the persisting pyelitis and pyelonephritis is that of all kidney-infections: Diverticula of bladder should have been discovered before the operation or dealt with at the time of the operation. Removal of the diverticula by dissection is the only treatment, as otherwise, 'residual urine' and persistent sepsis will continue.

Vesiculitis (suppurating) a definite cause of persisting sepsis and pus.

Incision from the posterior lip of the neck of bladder backwards and outwards to within ureteral orifices exposes the vesicles, open them by incision or dissect them out.

(6) *Epididymitis.*

During the first 3 weeks or later when getting about, infection spreads from bladder-sepsis, along the vas. Avoid it by dealing with sepsis in the bladder.

Treatment—Sling up the scrotum, lead and opium compresses on the raised scrotum, iodine internally as iodides, etc. rarely an abscess—requires opening or orchidectomy due to sinuses.

(7) *Impaired sexual function.*

Potency remains, but not ejaculation. Therefore sterility follows in most cases as semen is not propelled forwards, but flows back into the vesico-prostatic bed owing to the rigidity of the old cicatrised bed of prostate, and as the compresser urethræ muscle is not responsive to the presence of semen.

(8) *Persisting fistula (suprapubic).*

Due to obstruction at the entrance into the urethra.

Treat the fistula by 'open' operation, cutting out the tags, or excising the contracted scar tissues.

Causes of Death after Prostatectomy

(a) Pulmonary embolism, cerebral thrombosis or embolism—unavoidable causes.

(b) Renal insufficiency and sepsis urinary—partly avoidable by adequate pre-operative preparation and treatment and by proper selection of cases.

(c) Shock, hæmorrhage, pneumonia—avoidable by operative skill and methods.

Mortality of supra-pubic prostatectomy may be still reduced (now 12%) by

(i) Thorough pre-operative examination and preparation by adequate treatment of defects of every system—(not only of the kidneys)—renal, respiratory, circulatory and alimentary systems.

(ii) Selection of the method of operation up to the operator's skill and suited to the patient, and stopping bleeding, shock, etc.

(iii) Nursing, post-operative, suitable feeding, warmth, bowels, dressings, and early detection of complications—early enough.*

*Read at a monthly meeting of the Tinnevelly District Medical Association held at Koilpatti, on Dec., 17, 1935.

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In this issue we print the address delivered by Dr. Jivraj Mehta at the Fourth Annual Conference of the East and West Khandesh Medical Practitioners' Association, Bhushawal, of which Dr. Mehta has been elected president. The address is characteristic of Dr. Mehta—to the point and leaving no important feature untouched. It shows a comprehensive grasp of the medical problems not only of the Bombay Presidency but of India as a whole and it is a pity that Dr. Mehta could not find time to dilate on some of the larger issues involved. After all, the medical problems of Bombay are not so very different from the medical problems of other provinces and Dr. Mehta is always illuminating as well as constructive, if often critical.

The question of medical instruction is one that is constantly before the medical public and especially in the minds of the Indian Medical Association. Not from one platform but from several the present instruction has come in for a barrage of adverse criticism from people who daily see its deleterious effects. The extent to which standards differ from province to province, the system of training, curricula, period of the course and the equipment of schools and facilities for laboratory and clinical instruction are condemned even by those who have passed through these schools and who realise how great is the need for remodelling and re-organisation, to which end a minimum uniform standard of medical education throughout the country for licentiates and graduates alike would be an effectual contribution. The concern over this education is growing in vigour and extent and it remains to be seen how long these demands will be resisted by the authorities concerned.

That is one of the larger issues, concerned with increasing the efficiency of Indian medical men, but there is also much to be done in the way of organisation of medical services if the public are to receive better value for their money. That there is a contention between town and country even in medical matters we have known for long. The fault lies in the fact that neither town nor country is any way near provided with adequate hospital facilities. There must be something radically wrong when a hospital has to refuse hundreds of patients while three hundred beds lie unused. It is nothing short of a public scandal.

Dr. Mehta says, "It may well be asked, is there sufficient scope for economy in the present system of hospital administration? We have no doubt that there is, but it requires a reversal of the system of highly paid officers and services to one that is calculated to utilise and encourage honorary workers, in the supply of whom there is now no dearth and of whose efficiency there can be no question. This would in itself arrest the gravitation of both patients and licentiates to the towns. At the same time, we agree with Dr. Mehta that it

would be a wise move to hand over district hospitals and dispensaries to district municipalities and local boards; these could not do without grants from the provincial government but local enthusiasm may be depended upon to rally to their support, improvement and expansion. An instance in point is that of the Seth Vadilal Sarabhai General Hospital, Ahmedabad, to which Dr. Mehta refers.

We cannot dwell at length on all the points raised in his presidential address but Dr. Jivraj Mehta has done well in drawing attention to the need for improvement in rural sanitation as also the need for encouraging indigenous industry in hospital and medical requirements. Apart from other considerations, the population of India cannot afford to be at the mercy of foreign suppliers in so vital a matter and that is why the Indian Medical Association, through the medium of this paper, the usual exhibition of medical products held with the annual medical conference and by other means endeavours to promote the use of Indian drugs, sera and appliances. It is a matter that should always be kept in mind by Indian medical men and a subject that calls for the serious attention of Government.

Another subject that calls for the attention of the Government is the Chopra Report. This has now all too long remained in the archives and the fact that it has not been altogether forgotten is due to Col. Chopra's recent efforts in keeping it before the public mind.

There is not much we can add to Dr. Mehta's remarks, to which we would invite the attention of our readers as being both critical and constructive in design.

CASE NOTE

A CASE OF HODGKIN'S DISEASE WITH PERICARDIAL AND PLEURAL EFFUSION

S. P. GUPTA, M.D.,

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Mr. D.—a leading businessman of Lucknow, 43 years of age, a light weight and very active person, noticed in November last that his collars were getting tighter. This was later found to be due to enlargement of cervical glands. This enlargement was thought to be due to a septic absorption from the teeth with bad pyorrhœa. All his teeth were extracted and gums took several weeks to heal. The swelling in the neck increased gradually. Apparent softenings were observed, but never turned into a frank abscess. The patient was up and about till the 18th January. As he was getting slight fever he was asked to remain in bed. With the increase of swelling in the neck dyspnœa appeared and fluid was detected in both the pleural cavities. A skiagram showed that the lower half of the chest was radio-opaque. Pulse was irregular and sometimes showed a bigeminous character. Temperature was subnormal and the patient was very dyspnœic. Œdema appeared over his lower extremities. It was arranged to tap the pleural cavities. A long needle was put in the left space. A couple ounces of light coloured fluid was withdrawn. As the fluid was not flowing easily, the needle was pushed in a little more towards the right side. Immediately a deep yellow fluid mixed with blood flowed out and 10 oz. of it was removed. This fluid was from the pericardial sac for now a distinct pericardial rub appeared and the patient felt much relieved. The relief was still marked when one pint of comparatively clear fluid was removed from the right side.

The fluid from all the three sacs was hæmorrhagic for the red blood corpuscles settled down on standing. Albumin was 0·15%. Microscopically a large number of endothelial cells suggestive of malignancy were present. No inflammatory cells were present. The idea of a leukæmia was discarded when it was found that total white cells were 15,000 per c.mm. with 70% polymorphs, 30 lymphocytes.

The relief obtained by tapping was only temporary for only after 24 hours the patient was uncomfortable and the fluid in the sacs collected so rapidly that we had to remove 14 ozs. from the pericardium, 14 oz. from the left pleura and 18 oz. from the right pleura. The character of the fluid was the same as before. The pericardial fluid was markedly hæmorrhagic. As it was thought this case may be of Hodgkin's disease, injection of centrifugalised deposit was given in the brain of a rabbit—Gordon's test for Hodgkin's disease. The result was negative. The œdema which developed on his lower extremities disappeared. This improved action of the heart was due to (1) removal of fluid, (2) drugs like digitalis and Pandigal which were constantly given to him and (3) intravenous injections of strong solutions of glucose which not only supplied direct nourishment to the heart but acted as a strong diuretic. His dyspnœa had a spasmodic element too, for addition of Tr. Belladonna and ephedrine relieved him to some extent.

The relief obtained by 2nd tapping was also of short duration; 4 days after it the third tapping was necessary when 14 ounces of fluid was removed from the pericardium and 26 oz. from the right pleura. Glands in the neck seemed to be subsiding under fomentation and application of mag. sulph. cream and the skin of the region of the neck became indurated and hard. Glands were also palpable in the right axilla. As the septic theory was doubted a gland was removed from the axilla under local anæsthesia for microscopical examination. The section shows extensive proliferation of endothelial cells with giant cells and a

few eosinophils—a description of Hodgkin's disease (Fig. II). But a look at the section shows that it is more than a usual Hodgkin's disease. The extensive proliferation of endothelial cells appearing in sheets at places (Fig. I) was very suggestive of malignancy and we are very near the truth if we call it Hodgkin's

Fig. I.

sarcoma as described by Ewing and others. It could not be a carcinoma, for:—

(1) Cancer does not start in glands.

(2) Appearance of the section is not like that of a secondary deposit.

(3) The presence of endothelial cells in the pleural and pericardial fluids.

It could not be a sarcoma for the usual sarcomata are either of round cell or spindle cell type and do not show the sheet like arrangement seen here.

One may safely call it an endothelioma of the lymph nodes. But when we see that Hodgkin's disease, too, is a proliferation of reticulo-endothelial cells (or reticulo-endotheliosis as called by Piney) endothelioma of lymph nodes becomes synonymous with Hodgkin's sarcoma, a type, or severe type of Hodgkin's disease. The process is the same. It is a question of degree of proliferation only.

A portion of the gland was emulsified for Gordon's test. The injection was given in the same rabbit and the result was negative. Later, it was realised that the procedure was wrong for the rabbit probably developed some immunity by the injection of centrifugalised deposit from the pleural and pericardial fluid.

The diagnosis of a Hodgkin's process being established, the deep x-ray therapy was started. A

Fig. II.

fourth tapping was necessary after 8 days. The amount of fluid removed was as follows:—

Pericardium	...	... 14 oz.
Right pleura	...	... 56 oz.
Left pleura	...	... 26 oz.

After tapping the pericardium a marked pericardial rub appeared as usual.

A fifth tapping was necessary after 48 hours and 40 oz. of fluid was removed from the right pleura. The fluid accumulated very rapidly and detail of later tappings is as follows:—

Tapping No.	Interval	Source	Quantity
6	48 hours	Right pleural cavity	30 ozs.
		Left ,, ,,	19 ozs.
7	24 ,,	Right ,, ,,	25 ozs.
8	24 ,,	Left ,, ,,	22 ozs.
9	48 ,,	Right ,, ,,	40 ozs.
		Left ,, ,,	26 ozs.
10	24 ,,	Right ,, ,,	29 ozs.
11	24 ,,	Right ,, ,,	20 ozs.
12	72 ,,	Right ,, ,,	30 ozs.
13	24 ,,	Left ,, ,,	32 ozs.

Analysing the total amount of fluid removed we find:—

Pericardium	...	...	52 oz.
Right pleural cavity	...	...	334 oz.
Left pleural cavity	...	...	141 oz.
Total	...	...	527 oz.

As there was no inflammation all this fluid was of transudative type due to obstruction of the pleural veins. The right side of the chest was evidently much more affected. The presence of blood and endothelial cells is very suggestive of an invasion of the three sacs by a malignant process.

The temperature which had been irregular in the beginning was now sub-normal. Pulse rate was feeble and about 120 per minute. Œdema again appeared on the feet. Pericardial rub was not heard. Effusion was suspected. A needle was put in the pericardium but no fluid was withdrawn.

Apart from dyspnœa the other great complaint of the patient was sleeplessness. In the beginning he used to sleep with 1 c.c. of Eukadol (a morphine derivative). Later, the dose had to be repeated after a few hours. He seemed to be developing a tolerance for the drug. It was then combined with Ortal and Soneryl-hypnotics of the barbitone group. But they also became useless after a few days. Resort was then taken to morphia injections and in his last days even two injections of $\frac{1}{4}$ grain could not make him sleep.

Thus after undergoing a severe agony of about one month the patient died, as we were expecting every day, of sudden heart failure. No post mortem was available.

My thanks are due to Dr. B. N. Vyas and Lt.-Col. G. T. Burke, I.M.S., for their kind guidance in dealing with this case.

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MODERN THERAPY IN GENERAL PRACTICE

SOME COMMON DIGESTIVE SYMPTOMS

JOHN A. RYLE, M.D., F.R.C.P.

The treatment of symptoms should not, strictly speaking, be undertaken without a simultaneous attempt to discover and to combat cause. There are some symptoms, however, such as the hunger-pain of duodenal ulcer, the relief of which by appropriate means may reasonably be held to contribute to the cure of the disease. Others, again, such as flatulence and heartburn, are often so far independent of underlying pathologies that they themselves may be said to constitute the malady. Their removal completes the cure.

Genuine localized and recurrent pain in the region of the stomach is a symptom of organic disease, and therefore calls for a full diagnosis and treatment based thereon. It will not be considered here.

Gastric and Intestinal Flatulence

The commonest of all dyspeptic symptoms is flatulence, but there are several varieties and many causes of flatulence, and before treatment is initiated it is clearly important to add precision to the patient's unqualified complaint of "wind." First, flatulence may be gastric or intestinal, and a simple interrogation will soon discover whether "fore-wind" or "hind-wind" (to borrow the expression of a distinguished patient who was troubled by both) is the main complaint.

Intestinal—Intestinal flatulence, when organic disease can be excluded, is due to an over-production of gas in the bowel and a result of starch indigestion. The starches in the diet should be drastically curtailed, and potatoes, peas, beans, lentils, cakes and pastries, and rice puddings should be excluded. Bread should be taken toasted, or cut thin and crisped in the oven, or replaced by rusks. Finely powdered charcoal (one or two teaspoonfuls in milk or water) twice a day helps by promoting the absorption of gas. Increased exercise, for the sedentary, is valuable.

Gastric—The complaint of gastric flatulence may have reference to the "sensation of gas" in the stomach or to actual eructations, or to both. The sensation of "wind" may be due to an excess of air in a normal or hypotonic stomach or to a normal content in a hypertonic organ. The same sensation may be caused by hastily eaten or unsuitable food. It is referred to the epigastrium or behind the sternum. Anginal pains may be misinterpreted as "indigestion" for this reason, and also because they often follow meals and terminate with eructation. If a flatulent discomfort recurs with precise regularity at a constant interval after meals the possibility of organic gastric disease should be considered; occurring two to two hours and a half after food, it may sometimes replace the more typical hunger-pains of duodenal ulcer. Attacks of "bursting" flatulence are commonly associated with gall-stones, and are probably connected with a reflex closure of the pylorus.

By far the most frequent cause of painless gastric flatulence is aerophagy or air swallowing. The eructation occurs in bouts and are noisy. In the attempts to relieve a passing discomfort by belching the patient closes his lips and gulps air and again releases it with momentary satisfaction. The habit tends to become established as a conditioned reflex. It is irrational to treat it with elaborate diets or medicines. In many cases a simple explanation and an exhortation to resist the inclination to effortful belching is all that is necessary for correction of the habit. There is no evidence that gas can be diffused into the stomach or evolved there by fermentation sufficiently rapidly to produce the voluminous and frequent belchings of the air swallower. The flatulence of aerophagy is odourless and tasteless.

Malodorous eructations are of two kinds. They occur in benign pyloric stenosis or in obstruction from growth, and in gastric dilatation and stasis, when a fall in the gastric acidity may encourage the decomposition of protein food-stuffs and sulphuretted hydrogen is evolved. The patient and his relatives may then volunteer a description of "rotten-egg" flatulence, but often it is only admitted on direct interrogation. Marsh gas can be produced in the same circumstances, and cases are on record of the gas igniting when an eructation coincided with the lighting of a cigarette. Very rarely a transient dys-

pepsia from gastritis may be complicated by the eructation of hydrogen sulphide, but the chief value of the symptom is in a chronic dyspepsia, when it gives the clue to the presence of an obstructive lesion requiring surgical relief. If eggs and protein foods are withdrawn, the symptom disappears.

A gastro-colic fistula, whether complicating carcinoma of the colon or a post-operative anastomotic ulcer, is proclaimed, among other symptoms, by eructation of bowel flatus. The treatment is surgical.

Heartburn and Nausea

Heartburn—Heartburn is rarely, if ever, symptomatic of organic disease of the gullet or stomach. It may be defined as a burning sensation, vertically linear in its distribution, and felt at varying points between the pomum Adami and the xiphisternum. It is distinct from acid eructation, and may occur in the absence of free hydrochloric acid. The earlier idea that it was due to "acidity" depended upon its relief by alkalis. A common occasional symptom in most of us and at all ages, it sometimes becomes established and persistent. Hurry and worry and excess of starchy or fatty foods may cause it, and in women it is one of the most trying symptoms of the later months of pregnancy. Sodium bicarbonate and alocol (a proprietary preparation of aluminium hydroxide) give the best symptomatic relief, but an attempt should also be made to discover and eliminate adverse factors in the patient's physical and nervous life and habits.

Nausea—Nausea is a normal accompaniment of pregnancy in the early months. Medicinal treatment is rarely helpful.

To be regarded, perhaps, as a perversion of the hunger sense, it can be helped by a cup of tea and a biscuit on waking and before there has been any physical exertion. Fatty foods should be taken sparingly and fruit and carbohydrates increased. Nausea also precedes fainting and accompanies migraine and vertiginous seizures. When associated with reading or close needlework it may be cured by the correction of an astigmatism. In chronic cholecystitis "waves of nausea" are complained of, but there are usually other definitive symptoms. The treatment here should include avoidance of eggs and fried dishes, and the administration of biliary antiseptics, such as hexamine or salicylates. Nausea, with or without retching or vomiting and occurring especially in the morning and independently of pregnancy, nearly always means a true gastritis. If there is insufficient justification for lavage with the stomach tube a long drink, on rising, of one pint of water, in which one drachm of sodium bicarbonate has been dissolved, is often effective. Alcohol, strong tea and coffee, condiments, curries, coarse or uncooked vegetables, and twice-cooked meats should be avoided until the symptoms have disappeared, and in any alcoholic case alcohol in all forms should be permanently forbidden.

Water-brash and Hiccups

Water-brash—By water-brash is meant a sudden arrival in the mouth of a copious, tasteless, watery secretion. It is due to a sudden overactivity of the salivary glands. It is generally a symptom of organic disease, and appears more frequently in association with duodenal ulcer than with any other lesion. Arriving in concert with the hunger-pain it may be regarded as an exaggeration of the mouth-pain and it may also be regarded as an exaggeration of the mouth-watering (more common in dogs than men) which accompanies physiological hunger. Its treatment is the treatment of the underlying cause.

Hiccups—Seemingly due to a diaphragmatic twitch or spasm with simultaneous closure of the glottis, hiccups are a reflex consequence of gastric irritation. In children they are readily caused by bolting or injudicious feeding. In some people they are evoked immediately by peppery soups or other condiments. They are a familiar accompaniment of acute alcoholic gastritis. They are sometimes a symptom of uræmic gastritis, and have an equally grave significance in the dilated stomach, irritated by fluid regurgitation from the small bowel, in paralytic ileus, and in intestinal obstruction. Gastric lavage may prove valuable in these cases. In the more benign forms of hiccups drinking a large glass of cold water, holding the breath, or the induction of sneezing may all cut short an attack. There remain certain obscure forms of hiccups so prolonged and distressing as to give rise to anxious states of exhaustion. These occur especially in the elderly people. A few drops of tincture of iodine in water, or oil of cajuput or of peppermint are usually tried, and usually fail. If induced sneezing or sudden cold applications to the epigastrium are also ineffectual it may be necessary to give morphine or heroin to secure rest and sleep.

—Reproduced from *B. M. J.*,
January 4, 1936, pp. 23-24.

HÆMATEMESIS AND MELÆNA

CHARLES BOLTON, C.B.E., M.D., D.Sc., F.R.C.P., F.R.S.

Hæmatemesis and melæna, or melæna alone, for each has the same significance that is to say, bleeding from the lower œsophagus, stomach, or upper part of small intestine, may be profuse, moderate, or small in amount. In as much, however, as a mild bleeding may be followed in three or four days by a profuse attack, every case in the first instance should be treated with great care and in the same way; although it is quite true that now and then one meets with a patient who has recovered without having consulted a doctor or who has had no treatment whatever.

Hæmatemesis, except when small in amount, is always due to the opening up of an artery or a vein, so that the treatment is precisely the same whatever may be the primary cause of the hæmorrhage. In the later stages, when the bleeding has been arrested, a treatment appropriate to the disease giving rise to the hæmorrhage is naturally to be adopted; and it is well to remember that the vast majority of cases of hæmatemesis are due to a peptic ulcer of the stomach or duodenum, because after the bleeding has stopped every case should receive a prolonged systematic treatment in order to promote the healing of the ulcer. A sudden hæmorrhage without previous symptoms is almost always due to an acute peptic ulcer, rarely to a chronic one. Splenic anæmia may give trouble in diagnosis, because it does not produce gastric symptoms and bleeding may take place before the spleen is much enlarged, so that the latter may not be recognized owing to diminution in its volume from the loss of blood.

Hæmatemesis is always followed by melæna, and if this is absent the blood has probably been swallowed and subsequently vomited, or not been vomited at all. In such cases the cause should be searched for in the nose, pharynx, teeth or lungs; the blood is usually small in amount, except in the rare condition of perforation of the œsophagus by an aneurysm.

The hæmorrhage from a blood vessel in the stomach ceases as suddenly as it begins, owing to plugging of the vessel with a blood clot. Interference with this clot is the cause of recurrence of the bleeding, and is due to (1) distension of the stomach, which opens up and stretches the ulcer; (2) the alternate contraction and relaxation of the muscular coats of the stomach which dislodge the clot; (3) dilatation of the vessels due to active congestion during digestion; and (4) the gastric juice, which digests the clot. The aims of treatment are, therefore, directed towards keeping the stomach contracted, restraining its movements, maintaining the gastric glands in the resting state, and limiting vaso-dilatation. These are accomplished by securing complete rest for the stomach by the withdrawal of food and drink by the mouth, and by keeping the patient absolutely at rest physically and mentally.

Immediate Treatment

When a patient who has just had a profuse hæmatemesis is first seen a hypodermic injection of morphine hydrochloride, $\frac{1}{3}$ to $\frac{1}{2}$ grain, and atropine sulphate, 1/100 grain, is to be given at once, and the patient is to be made as comfortable as possible and kept perfectly quiet wherever he may be. After two or three hours the patient may be removed to bed in a quiet, well-ventilated room, the bed being so placed as to be free from draughts, and care being taken not to over-heat the room. The mattress should be firm and the bed coverings limited to a sheet and a blanket only, the pressure of these coverings being relieved, if necessary, by a cradle. The patient's head should be kept low and a hot-water bottle put at the foot of the bed, which it may be advisable to raise. The blinds should be partially drawn so that the face of the patient is well shaded, and he is encouraged to lie in the supine position at absolute rest. The application of ice to the epigastrium is not to be recommended.

The patient is not disturbed further for the first twelve hours. Whether the morphine should be repeated or not depends upon whether there is a further large hæmorrhage and whether the patient is restless and sleepless, in which case it may be repeated in smaller doses—say, $\frac{1}{3}$ to $\frac{1}{4}$ grain for a few nights. As a rule hæmorrhages, smaller in amount than the original loss, recur. They are announced by a rise in the pulse rate, feelings of faintness, giddiness, and sinking and, perhaps, an increase in pallor. The intervals between them vary in length. There may be several attacks on

the same day, or an interval of two or even six days may elapse; but after seven days' freedom it is almost certain that no further hæmorrhage will take place.

The last sign of bleeding is always melæna, and its cessation, as judged by this sign, varies from three or four days to a fortnight from the commencement. Fresh melæna, as indicating the occurrence of hæmorrhage, is coal-black, glistening and viscid; or there is mixture with the fluid of a washout; this is black and quite likely to have small black clots floating in it. This must be distinguished from old melæna, because an enema may dislodge blackened and hard masses of fæces as long as a month after the onset of bleeding, the patient passing light-coloured soft motions at the same time. Food by the mouth is withheld till the bleeding has completely stopped for two or three days in most cases.

Treatment after first 12 Hours

In the meantime, after the first twelve hours cold water may occasionally be given to drink by the teaspoonful. If administered slowly in this way no harm is done, and it is gratifying to the patient whose mouth is dry and parched. The sucking of ice is not to be recommended. Fluid is introduced into the body per rectum, and half a pint of 5 per cent. glucose saline is run in every four hours by funnel, or the continuous drip method is employed. This is supplemented by the subcutaneous injection of saline solution if the thirst remains acute. The rectum is to be washed out thoroughly once a day, and the mouth kept scrupulously clean at frequent intervals by some bland antiseptic solution, especially if the teeth and gums are not absolutely healthy. There is a diminished secretion of mucus from the buccal mucous membrane and of saliva from the salivary glands due to depletion of the vascular system and also to lack of the stimulus of mastication. The mouth is dry, the tongue furs, and sordes collects on the lips. If the mouth is not kept scrupulously clean by the nurse, the growth of bacteria is encouraged and spreads up the parotid duct, the diminished flow of saliva favouring this; inflammation and suppuration of the parotid results and the patient's life is thereby greatly endangered. Fortunately, this formidable complication is rare.

Continued Vomiting

This state of affairs may be aggravated by vomiting which, however, in my experience is rare, but hypersecretion is sometimes present and the flow of gastric juice is excited if blood remains in the stomach. The patient continually vomits intensely acid fluid containing blood in the form of "coffee-grounds." Such a case is to be treated by atropine, which not only arrests secretion but also dilates the pylorus. This drug is given by hypodermic injection as atropine sulphate, 1/100 to 1/50 grain, or by rectum as tinct. belladonnæ, 20 to 30 minims; potassium bromide, 40 grains, may be combined with the belladonna and given by rectum if the vomiting is persistent. These drugs are repeated daily, or even twice daily, till a definite effect is produced. A close watch should be kept on the patient so that the atropine can be stopped if necessary. Small amounts of lime-water by mouth are also indicated.

The fever which most patients exhibit may be disregarded. It begins with a slight rise of temperature a few hours after the onset of bleeding or on the next day. It runs an irregular course, is not often over 100°F, and gradually reaches the normal a variable time after the bleeding has ceased.

Feeding by Mouth

In the general run of cases, when the bleeding has been finally arrested for two or three days, mouth-feeding is very carefully begun. Albumin water or whey is substituted for the water which has hitherto been allowed: these small quantities are gradually increased to 5 oz. every two hours. Equal parts of whey or albumin water and citrated milk (2 grains of sodium citrate to 1 oz. milk) are now substituted: citrated milk is then taken alone, and finally increased to 7 oz. every three hours. This stage would be normally reached in about ten days after the cessation of bleeding. In the meantime, the rectal salines have been gradually reduced in number and at this stage are discontinued. An enema is given every other day in place of the daily washouts.

The dietetic treatment of ulcer, if the case is of such a nature, is to be continued from this point; otherwise, a more rapid advance in diet may be proceeded with. Wasting, the result of enforced absence of food, is an invariable accompaniment of this treatment, but no untoward result ever eventuates from it, and the normal weight is soon regained if a

properly graduated diet is introduced. For the very rare complication of blindness and venous thrombosis there is no special treatment. Four methods of treatment remain to be considered.

Use of Hæmostatics

Hæmostatics, upon which the older physicians placed so much reliance, are probably of no use whatever. Three types of such remedies have been employed for many years. Hæmostatic substances which precipitate the blood plasma (iron perchloride, for example) are given in the endeavour to block up the mouth of the artery; but it is difficult to see how any substance taken by the mouth could, owing to dilution, be of value; moreover, the clot formed by them is of a loose texture only. Adrenaline, which causes contraction of the blood vessels when applied locally, can only be of use if the stomach has been washed out previously. Attempts to increase the coagulability of the blood have been made by the administration of calcium salts, and also by the subcutaneous or intravenous injection of hæmostatic serum. Calcium is, however, useless, and there is no positive evidence that the latter method is of any more value.

Gastric Lavage

Lavage of the stomach has been practised off and on for over twenty years. Theoretically it is a sound idea, for blood retained in the stomach, partially digested and mixed with gastric juice, is inimical to the arrest of hæmorrhage. Either hot or ice-cold water or astringent solutions have been employed. The blood is sucked out of the stomach by an evacuator, and a few ounces of water introduced and removed till the washings are clear. The astringent is then poured in. It is difficult to empty the stomach completely, and in order to do so the tube must be introduced into the lowest part of the stomach. The protecting clot is very likely to be dislodged, as the tube may come into direct contact with the ulcer, and at all events the mucous membrane is subjected to suction. This is not a method to be lightly undertaken.

Blood Transfusion

The mortality from hæmatemesis is small, and occasionally a patient who appears to be in extremis will recover, but, on the other hand, an apparently moderately severe case now and then proves fatal. There is thus always a degree of uncertainty at the onset, and blood transfusion should therefore always be an available method. It is a good plan to have the patient's blood grouped straight away in all cases. Much has been written about its usefulness as a means of treatment, and it is undoubtedly a valuable method, although it must be acknowledged that there is no definite pathognomonic indication for its employment. Hæmatemesis does not prove fatal after the initial attack, but after repetitions due to dislodgement of the clot, and it is after one or more repetitions that transfusion is to be done as decided by the physician.

As regards the danger of recurrence of hæmorrhage following raised blood pressure due to the transfusion, practical experience has shown that this is not great, and two transfusions of 250 c.cm. each, with an interval of two hours between, is perhaps the best method of administration. There are three points of assistance in deciding whether it is advisable to transfuse, but they must be considered together. The first is the general clinical picture presented by the patient and assessed after review of the case in all its aspects. The other points are the character of the pulse and the percentage of hæmoglobin in the blood. We do not know the normal blood pressure of our patient, so that the value of the readings during hæmorrhage are uncertain; and after transfusion the pressure may fall and yet the patient recover. The rate of the pulse is perhaps of greater value, but sometimes it may not be much over 100 till just before death. A hæmoglobin reading of 30 to 40 indicates danger, although the patient may appear to be quite comfortable.

Operation

There is a great deal of risk in operating; this is, of course, minimized by transfusion. If an acute peptic ulcer is thought to be present the case is better left alone, because there is no external indication of the presence of the ulcer, and the stomach must be opened to deal with the bleeding point. The search for this may be difficult and the ulcer often not found, in which case the patient is almost certain to die. On the other hand, a chronic ulcer is easily found, and such a case should be operated on if the recurring hæmorrhage is persistent or if pyloric stenosis is present.

—Reproduced from *B. M. J.*,
February 1st, 1936, pp. 222-23.

CURRENT MEDICAL LITERATURE

MEDICINE

Liver-Resistant Pernicious Anæmia

PINEY (*The Med. Press and Circular.*, October 30, 1935) writes that while treating cases of pernicious anæmia with liver he has observed that there are some cases in which the response to injection of liver extract is not complete or in which unusually large doses of liver are required to keep the blood normal and he had found amongst others the following as possible causes for this refractoriness:—(1) pyelitis, (2) hypothyroidism, (3) arterio-sclerosis, (4) a defect of unknown origin remedied by oral administration of iron. Every patient with pernicious anæmia who fails to respond to liver extract injections should have the urine examined for pyelitis even if there be no symptoms suggestive of it. Suitable treatment of pyelitis and hypothyroidism will give the patient much relief but in cases of arteriosclerosis nothing can be done except by giving larger and larger doses of liver to restore the blood to normal. There still remains a group of cases of pernicious anæmia which responds to liver to certain extent when further injection causes a fall in the color index with the rise in the number of red-blood corpuscles—these cases, the author observes, improve with iron in big doses and when the blood count becomes normal, iron is stopped. These cases need occasional courses of iron in addition to liver to keep the hæmoglobin and red-corpuscles at normal figures.

Diarrhœa of Hyperthyroid Origin

RICHIERI (*Prensa Medica Argentina*, November 27, 1935, p. 2317) reports 9 cases of diarrhœa of hyperthyroid origin and gives the following as characteristics of the condition. The diarrhœa is frequent in all forms of hyperthyroidism, may be the predominant or even the only symptom of the condition. The onset is usually sudden; the bowel discharges are of a paroxysmal type and sometimes painful, the number of stools varying in the mild form from 3 to 4 or 40 to 50 in the acute. The fæces are either loose or soft, do not contain any mucous or blood and microscopical examinations reveal no abnormality. In atypical form of hyperthyroidism the diagnosis is very difficult. Increased basal metabolic rate and presence of alimentary hyperglycæmia will point to the hyper-activity of the thyroid and the cause of diarrhœa.

Limited Diet Free from Sugar with Severe Migraine

JANREGG (*Wiener Med. Wschr.* No. 1, 1935) found very excellent results in severe migraine with diets free from sugar. He prescribes plenty of exercise in the fresh air, a scanty diet and avoiding any food containing sugar for at least 4 weeks. This sugar-free diet has also proved efficacious for the lancinating pains of tabetics.

New Method of Treatment of Diabetes Mellitus

SACHAROV and ROSSIYKIY (*Sovetskaya Vrachebnaya Gazette*, October 30, 1935, p. 1565) treated very successfully 25 patients suffering from diabetes by daily subcutaneous injection of serum of sheep immunised by injection of pancreatic tissue removed from recently deceased human beings. This substance is a cytotoxin and the authors give it the name of pancreotoxin. The activity of the serum and the presence in it of cytotoxin are determined by the reaction of complement deviation. The results of the treatment by the above method is very encouraging and there is a marked improvement in the general condition of the patient, the urine becomes soon sugar-free and the blood sugar also comes down to normal. The authors have observed in these patients an increase in carbohydrate tolerance. The course of treatment consists of from 15 to 40 daily subcutaneous injection of from 0·1 to 0·2 c.c. of the said serum and unlike insulin there is no concomittant unpleasant symptoms of hypoglycæmia following the injection. A follow-up study shows absence of glycosuria in these cases, 2 months after the course of treatment.

Tiger-Snake Venom in Treatment of Hæmorrhage

ROSENFELD and LENKE (*Amer. Jr. of Med. Sci.* December, 1935, p. 779) report the successful results obtained by topical application of tiger-snake

venom in 8 cases of blood dyscrasias where common expedients e.g. pressure, thromboplastine, tannic acid, adrenalin, ferric chloride, etc., failed. The authors observe that its hæmostatic action is purely local and it does not prevent recurrence nor does it affect in any way the course of the hæmorrhagic disease. Thorough neurological examination of the patients so treated did not show any evidence of damage done by the neuro-toxin of the venom nor was there found any local swelling, ulceration, necrosis and infection.

Histamine Test in Diagnosis of Pulmonary Tuberculosis

VIDELA and LAMARQUE (*Prensa Medica Argentina*, November 20, 1935, p. 2265) write that 1 c.c. of 1 in 1000 histamine solution when injected hypodermically, produces transient local and general reactions in patients with or without pulmonary tuberculosis. In patients suffering from pulmonary tuberculosis with slight auscultatory signs, the injection is followed within from 3 to 5 minutes by modification of the vesicular murmur and the appearance in the suspected pathological areas of the lungs of audible moist rales. The respiratory and circulatory changes produced in those patients by the injection are very transient and are quite harmless. Patients having no pulmonary tuberculosis do not show any respiratory alterations by this injection. The test is thus of value as an aid in diagnosis of pulmonary tuberculosis and it gave positive results in 90% of the authors' 20 cases.

Carbohydrate and Chloride Metabolism in Pneumonia

SINELNIKOV and his associates (*Klinicheskya Meditsina*, October, 1935, p. 1474) studied the blood sugar and urinary chlorides of 23 patients suffering from pneumonia and found that in all the cases there was definite hyperglycæmia (from 120 to 160 mg.) and lowered excretion of chlorides in the urine (from 0·58 to 1·33 mg. of sodium chloride in 24 hours) during the stage of hyperpyrexia. The rise of blood-sugar persisted till the crisis when it came down to normal. The urinary chlorides excretion also rises after the crisis and usually reaches the normal level on the 18th day. This condition, according to the authors, is a pathologic non-diabetic acidosis. The authors further observe that insulin therapy distinctly lowered the mortality in their series to almost zero—insulin rapidly restoring the chloride metabolism to normal with the simultaneous lowering of the blood-sugar level.

Acetyl-Beta Methylcholin in Paroxysmal Tachycardia

STARR (*Amer. Jr. Med. Sci.* February, 1936, pp. 211-224) used acetyl-β methylcholin in the treatment of 75 attacks of paroxysmal tachycardia in 37 patients and in 66 instances (88%) brought the attack to an end. The doses required to stop the attack varies with age as well as the weight of the patient. The author observes that the causes of failure to stop the attacks are (1) too small doses of acetyl-β methylcholin used and (2) previous medication with quinidine. The author gives also the toxic symptoms of the drug—they are quite analogous to those of the ordinary attack of syncope.

SURGERY

Staphylococcus Septicæmia Treated with Bacteriophage

MACNEAL and FRISBEE (*Amer. Jr. of Med. Sci.* February, 1936, pp. 179-195) report the result of staphylococcus septicæmia treated with intravenous administration of potent bacteriophage in 100 cases of which 25 only survived. The authors observe that this condition occurs in both sexes and at all ages but during adult life is more common in males and they hold that bacteriophage, when timely employed in the condition, may save many lives.

A New Treatment of Sprained Ankle

SPERBER and SABATINO (*Medical Record*, November 20, 1935) following the suggestion of Prof. Leriche treated very successfully six cases of articular traumatism of the ankle by injecting locally 2% solution of procaine hydrochloride (infiltration method). The relief of pain from this mode of therapy is instantaneous, the functional use of the joint is immediate with no period of disability, and local œdema disappears very quickly. The authors further note that this form of treatment is not as successful in muscular and bone bruises as in articular traumatism.

Surgical Treatment of Cancer of Colon

KOCH (*Archiv. fur. Kinischce Chirurgie*, November 18, 1935, p. 39) reports the results obtained in

116 cases of carcinoma of the colon in which operation was performed by Lofberg at the Malmo General Hospital between 1917 and 1931. Palpation of the tumour was possible in 48% of the cases while the correctness of the roentgenologic diagnosis was established in 75%. Operation was possible in only 40% of the cases. Primary resection was favoured as the operation of choice and was carried out in 42 cases. The immediate mortality was 16·6%. Acute obstruction complicated 32·7% of 116 cases. Carlsabad salt and liquid petrolatum were administered immediately after operation. The patients were able to leave the bed after 2 weeks. The average stay in the hospital was one month. A follow-up study established that 66% of the cases in which radical operation was performed were free from recurrence after five years. (Summary Current Medical Literature, *J. A. M. A.*, January 25, 1936, p. 341).

Hypertrophy of the Prostate

Niehams (*Lancet*, February 8, 1936, pp. 307-311) writes that the senile changes in the prostate are due to the removal of the inhibitory action of testicular hormone and unrestrained action on the prostatic tissues of the secretions of the interstitial cells of Leydig and prolan together with the female hormone which is present in men as well as in women. The author has given relief to 400 sufferers from prostatic enlargement by the simple operation known as Steinach's ligature II which he describes as "a ligature (silk) placed in the groove between the epididymis and the testicle, not level with the testicle but level with and even, if necessary, encroaching on the head of the epididymis." This closes the efferent ducts and stops the escape of external secretion of the testis with the result that the testicular hormone passes through the pores of the albuginea into the general circulation and inhibits the abnormal development of the prostate by reducing the hyper-secretion of prolan and re-establishing a balance between male and female hormones. The operation is simple and is without shock, pain, loss of blood or risk and entails a fortnight's stay in bed.

Chronic Constrictive Pericarditis Treated by Pericardial Resection

White (*Lancet*. 229:539:597) reports 15 cases of chronic constrictive pericarditis (Pick's disease) and reviews the literature and discusses the etiology and signs and symptoms of the disease. The author writes that digitalis therapy and Thalma's omentopexy should be abandoned in the treatment of this condition and be replaced by pericardial resection where possible. The operation was done in his cases by Dr. Churchill. It was done under ether anæsthesia. The pericardium and heart are exposed by the removal of the 4th, 5th and 6th left costal cartilages and rib ends and left part of the sternum. The left pleura is then picked up and retracted and the pericardium opened in the most favourable spot. The main part of the operation is the decortication of the heart, the heart being freed from its constricting pericardium by blunt and sharp dissection.

Diagnostic Errors with Pains in the Ear

Biehl (*Mitt. d. Volksges-Amtes, Vienna*, No. 7, 1935) writes that not every pain in the ear indicates disease of the same. This may be due to caries of the teeth, sore throat, a tongue wound, a tonsilary abscess, or an affection of the larynx. Neuralgia of the N. occipalis minor and major may give the appearance of an otitis media or a mastoiditis. Slight pressure on the typical point clears up the situation. In the course of an otitis media, however, the sensitiveness to pressure which develops in the region of the emissarium Santorini may also indicate a sinus affection. A somewhat firmer grasp can reveal a cucullaris myalgia radiating into the ear. Pain with slight pressure on the tragus or the posterior caudal wall of the auditory meatus on the root of the auricle under the tragus indicates otitis externa, even if there is hardly anything to be found in the auditory meatus itself. The pain from otitis media is deep, beats with the pulse, and is not influenced by pressure on the auditory meatus. An occipitalis neuralgia, a beginning furunculosis, a lymphadenitis with louse eczema of the head, etc., may give the appearance of a mastoiditis (sensitiveness to pressure of the bone). Normal eardrum and hearing speak against otitis media.

With inflammation of atypical mastoid cells, which extend forwards toward the cheek-bone or backwards toward the occiput, the pains are often no longer attributed to the middle ear on account of the peculiar localisation, but are erroneously taken for a neuralgia or a beginning furunculosis. There may also be large cells at the tip of the mastoid process (terminal cells) which, when inflamed, lead to an inflammatory infiltration of the muscles which have

their origin here. The result is pain when the head is turned, and holding of the head stiff, toward the affected side, so that one may readily think of a muscle rheumatism (check upon the ear).

With chronic otitis media, the pains may be either from the middle ear or from the auditory meatus (irritation due to pus). In contrast to the usually harmless mesotympanal suppurations, the epitympanal suppuration (marginal perforation) often causes destruction of the bone. Here, there are pains in the ear, or radiating pains in the head or on the affected side, frequently as the first symptom of a sudden complication. The pains may be relieved after a gathering of secretion (polyp, cholesteatoma) has been relieved, but the bone affection may run its course unaltered, and make an interference necessary. On the other hand, extensive disturbances of the bone may take place without pain, with scarlet fever, diabetes, tuberculosis, etc.

To relieve earache, carbolic oil or carbolic glycerine may be prescribed, with the addition of a little tinctura opii aquosa. Carbolic paraffine should never be prescribed because the carbolic acid does not dissolve in paraffine, and may cause severe burns.

(Summary *Ars. Medici.*, December, 1935).

OPHTHALMOLOGY

The Treatment of Trachoma by Benzil-Cinnamic Ether

Venco and Castelli (*Rass. Ital. de Ottal.*, November-December, 1934) treated successfully 33 cases of trachoma in all stages by injecting intramuscularly 1 c.c. of a 2 to 3% solution of benzil-cinnamic ether in olive oil daily for 12 days, the course of injection being repeated once or twice after an interval of a fortnight, if necessary. The authors write that photophobia and blepharospasm disappear after the injections and there is a marked improvement in the general condition of the patient. The authors also found remarkable improvement in the healing of the corneal ulcers. Twenty-five patients responded very well to the treatment and 4 deteriorated. The authors hold that the drug acts chiefly by its effect on the general well-being of the patient. Local measures are necessary to secure success and specially for dealing with the complications.

The Blood in Senile Cataract

Trovati (*Ann. di Ottal.*, August, 1935) studied in detail the blood of a number of patients with senile cataract and found the following characteristic changes:—Red cells count—slight decrease; Hb—normal; granulocytes—slight increase; coagulation time and viscosity of the blood—slightly increased; blood sugar value—low; blood cholesterin—high; blood potassium—high; blood calcium—low. The author suggests that this variation of potassium calcium metabolism may have an important bearing on the development of cataract.

Angio-Neurotic Disturbances of the Retina

Gastelli (*Ann. di Ottal.*, August, 1935) reports 4 cases of marked loss of vision due to spasm of the retinal vessels, two of them showing gross change in the fundus. The use of acetylcholine in these cases produced marked improvement in acuity of vision and in the fundal changes, but could not cure them completely. The cases showed definite signs of endocrine deficiency and only after suitable hormone therapy they were cured completely of their eye-trouble.

The Glutathione Content of the Ocular Liquids and Tissues

Piterguidi (*Boll. d'Ocul.*, July, 1935) finds that the cornea contains a large amount of glutathione. It was to be expected that an avascular cornea would hold in its tissues a large amount of the substance to aid in its internal respiration. This is even more important for the lens which is to rely entirely on such substances to supply oxygen necessary for its metabolism; it would seem that the lens has the power of selecting glutathione from the ocular liquids and storing it in quantity. (Summary *B. Jr. Ophthal.*, January, 1936, p. 54).

Analysis of 55 Cases of Tobacco-Alcohol Amblyopia

Caroll (*Arch. of Ophthal.*, September, 1935) after analysing 55 cases of amblyopia caused by tobacco and alcohol came to the following conclusions:—(1) of 55 cases only, two were women; (2) the average age was 56·6, the youngest being 25 and oldest 77; (3) onset is usually gradual; (4) no pathological changes in the eyes except for the presence of pallor in the temporal halves of the disc in 19 patients and in 16 only faint fine mottling of the macula; (5)

regarding etiology it is impossible to say whether the amblyopia is due principally to alcohol or to tobacco; (6) susceptibility is of more importance than the quantity of the substance taken; (7) none of the cases showed diabetes; (8) intradermal test did not show in any case any hyper-sensitiveness to tobacco; (9) abstention is the most important point in treatment though of the 17 patients, who did not give up tobacco and alcohol, 3 improved.

OBSTETRICS AND GYNÆCOLOGY

Quicker and Less Painful Delivery After Salt-Free Diet

KARPATI (*Gynec. et Obstetr.*, No. 2, 1935) observed that pregnant women who were put on a salt-free diet on account of nephropathia or some other cause had much easier deliveries, with much shorter dilatation periods than in their other deliveries after ordinary diet, containing salt. Similar results were also observed at the Strassburger Women's Clinic (Hofstein and Petrequin, and M. Reeb). The last-mentioned author found that nervous women went through delivery much more quietly than formerly, when they had had diet low in salt (it is not necessary to give a diet completely without salt). This diet must be begun at least one to two months before delivery, however, if it is to be successful. Whereas Karpati's pregnant patients, who were given saltless diet, were mostly patients with kidney trouble, and only a small proportion were healthy individuals, those observed in Strassburg were all healthy women, in whom the delivery was easier after saltless diet. (Summary *Ars. Medici*, December, 1935, p. 565).

Advantages of Episiotomy

PHILLIPS (*Lancet*, November 16, 1935) writes that he has been using for a number of years episiotomy with advantages to mother and infant. He states that there is (a) reduction in the amount of damage to the abdominal wall; (b) minimal damage to the supports of the uterus, bladder and rectum; (c) a completely restored pelvic floor; (d) great reduction in the number of still-births; (e) a lessening of the mental morbidity in childhood and adult life. The episiotomy done at the right time is often followed by natural unaided expulsion of the fœtus and the right moment to do it is the latter part of the second stage, as soon as the perineal body is seen to hold back the fœtal head. The operation is to be followed by immediate and careful suture.

A Study of a New and Potent Ergot Derivatives Ergotocin

ADAIR, DAVIS, KHARASCH and LEGAULT (*Am. Jr. Obst. and Gynec*, 1935, 30, p. 466) have found out in a crystalline form a stable active principle of ergot and have given it the name of ergotocin. It is potent in minimal doses by various methods of administration. It is constant in action, does not deteriorate readily and has no apparent detrimental effect on respiration, blood-pressure or urinary output. Its quick and prolonged oxytocic effect makes it of special value in the control of postpartum hæmorrhage. The authors hold that it can be safely used whenever oxytocic therapy is indicated.

Cæsarean Section in Infected Cases

VILLARAMA (*Jr. Philippine Islands Med. Assoc.*, October, 1935, p. 523) writes that though cæsarean section is dangerous in potentially infected cases, when the child is living it offers a best approach for delivery if the vaginal route is impossible. The author makes the statement on the basis of his observations on 16 cases which were all potentially infected. In one case the operation was done five days after the rupture of the membrane, in 3 cases three days after, in 6 cases when forceps were applied to no effect. In 3 cases the rupture of the uterus was imminent and in another three, podalic version was tried in vain. In all these cases the delivery through the vagina was thought to be impossible because of over-development of the fœtuses. The author's series do not show any maternal death but two of the children died after removal. The author took particular care in preventing the peritoneal cavity from being contaminated with uterine contents and in cleansing thoroughly the uterine cavity before it is closed up.

The Use of Roentgen Rays in Obstetrics

BRAULT (*Bulletin de la Societe d' obstetrique et de gynecologie de Paris*, July, 1935, p. 442) complains that Roentgen examination is very little used in obstetrics though it may render very valuable services.

X-Ray enables one to diagnose the presence of twins in utero which is very important in order to keep the patient in bed for the last few months giving the fœtuses better chance to survive birth and develop normally. In presence of a slightly contracted pelvis it is all the more important to know beforehand if one is to deal with two fœtuses forcibly small or with one very large. The diagnosis of hydrocephalus is only possible by X-ray examination before labour. The diagnosis of breach presentation in a primipara is often misleading even to an experienced accoucheur and equally important to be determined as it involves the contra-indication of confinement at home. The author has used X-ray extensively for diagnostic purposes and has not found it detrimental to mother or child.

Sterility of Endocrine Origin

Bland, First and Goldstein (*Jr. Amer. Med. Asson.*, October 19, 1935, p. 1231) draw special attention to the influence of endocrine glands on sterility and attempt to determine the uniglandular origin of a polyglandular syndrome. Three main types of glandular deficiencies are considered:—(1) primary pituitary deficiency, (2) primary ovarian failure and (3) thyroid derangement. A fourth suprarenal deficiency is very rare. In the first are found a mild adiposo-genital dystrophy, short stature, characteristic mammary-mons girdle obesity, hypertrichosis with masculine distribution of pubic hair and genital hypoplasia with menstrual derangement. In the second type, the patient is highly emotional, under-weight, visceroptotic, and intolerant to food with genital hypoplasia (amenorrhœa or irregularity in menstruation). In hypothyroidism there is menorrhagia with hyperplastic endometrium and with history of repeated abortions. In toxic adenoma, 20% of the patients get amenorrhœa and in exophthalmic goitre amenorrhœa is common due to hyperaction of thyrotropic action of anterior pituitary. The authors recommend the examination of endometrial curettings obtained in the premenstrual period as that will often explain many other obscure cases of sterility in regularly menstruating women. The treatment as suggested by the authors is (1) improvement of the general condition, (2) specific organotherapy, (3) low dosage irradiation of the pituitary gland and ovaries. The authors write that 53 out of 150 women treated on these lines subsequently became pregnant.

PATHOLOGY AND BACTERIOLOGY

Sedimentation Rate in Heart Disease

Wood (*Quarterly Jr. of Med.*, January, 1936) gives the results of sedimentation tests done in 164 cases of all types of heart diseases and heart failure excluding cases with any form of intercurrent infection or with a secondary anæmia. The author writes that the sedimentation rate is diminished in all cases of congestive heart failure regardless of pathology. The rate is increased in active rheumatic heart disease, myocardial infraction, and syphilitic aortitis. In coronary thrombosis the rate is not increased immediately, but after a day or two increases steadily to its maximum point till the end of the 3rd week after which it slows down to normal. The angina of effort shows a normal sedimentation rate while angina of rest in absence of syphilitic aortitis shows a slightly increased rate which, of course, does not alter from week to week.

A Simple Nitrite Test of Urinary Infection for the General Practitioner

Lipp, (*J. Munchener medizinische Wochenschrift*, 82:1718-1719, October 25, 1935).

Weltmann's nitrite test for the demonstration of urinary infection is really very simple. It is widely used in clinic and laboratory. The reason why it does not make its way into the general practitioner's office is perhaps the somewhat complicated reagent (Gries' reagent), even in its simplified fluid form, namely, Hosvay's fluid reagent. The writer therefore devised a reagent in powder form, which he calls " colicit " because of its selective reaction with coli bacilii, the most frequent excites of pyuria. Owing to an alphanaphthylamine component, colicit gives a still more beautiful red reaction than Gries' reagent. It is not perishable, always ready to use, very sensitive and independent of all laboratory apparatus—not even a test tube is needed. It suffices to put a drop of urine and some colicit on a strip of white paper to have the positive reaction almost instantly, due to the presence of nitrites. Normal urine contains only nitrates, and hence remains unchanged. Under the reducing influence of certain bacteria, especially coli bacilli, the nitrates are changed into nitrites. Gonococci and streptococci do not form nitrites.

The positive reaction in the urine of a young woman who has suddenly come down with high fever, vomiting and pains in the right upper abdomen can thus immediately reveal a pyelitis and quick action prevents the germs from ascending, especially in pregnancy. Since pregnancy pyelitis is frequently limited to the right side, the positive colicit reaction guards against an erroneous diagnosis of appendicitis and cholecystitis.

The pediatrician will find the test especially useful in puzzling fevers and other morbid conditions of small infants. Pyurias in infants are practically always caused by coli bacilli. A positive colicit reaction occurs in pyuria exclusively not in health and not in any other morbid condition, except severe infantile atrophy. In female infants, the urine may be obtained by inserting a tiny tampon of sterile cotton into the vagina, and the powder is sprinkled directly on the wet tampon.

Urinary infection is often caused by obstipation, as Asch has stressed repeatedly. One of the three groups of Asch's classification of urinary infection is characterised by massive colibacilluria, besides the usual renal casts and albuminuria. Practically all the patients of this group are chronically obstipated. As soon as the obstipation is relieved, the coli bacilli disappear from the urine. This is a diagnostically, therapeutically and prognostically important observation. Colibacilluria also plays a role in other intestinal disturbances, in which case an increased desire to urinate and strangury are frequent symptoms. Symptoms of cystitis are usually lacking. A positive colicit reaction immediately clears the diagnosis. (Summary, *International Medical Digest*, Vol. 28, No. 1, January, 1936).

Bacteriological Studies of Acute Lobar Pneumonia

Bhatnagar and Singh (*Indian Jr. Med. Res.*, October, 1935, p. 337) record a systematic bacteriological investigation of 100 cases of clinically diagnosed acute lobar pneumonia in Karachi. The pneumococci isolated from these cases have been typed with the help of standard type specific sera. The authors make the following observations amongst others:—The percentage of incidence of Type I infection was twice as high among military as among the civil population indicating the influence of age on the nature of infection. The mortality percentage was ten times higher in civil population and the authors ascribe this to the fact that military patients get open-air treatment whereas civil population do not get it and are treated in warm ill-ventilated rooms. Type II infection was twice as high in military as in civil population while the mortality rates are similar. There was no Type III case in military population but only a few cases occurred amongst the civil population who showed the usual high mortality rate of this type (80%). The incidence of Type IV was about the same in both groups, but mortality-rate was twice as high in military as in civil population. The authors noticed a large percentage of bacillus pneumoniæ Friedlander as the primary etiological factor in acute pneumonia occurring during the hot months of the year.

TROPICAL DISEASE

Relative Value of Urea Stibamine and Neostibosan in the Treatment of Kala-Azar

Lee and Chu (*Chinese Med. Jr.*, April, 1935, pp. 328-39) write that from the observations made at the Peiping Union Medical College it is found that a full course of urea stibamine for a cure of kala-azar in a child will consist of 1·0 to 1·5 grm. as contrasted with 1·5 to 2·5 for neostibosan and for an adult the figures will be 1·5 to 2·5 and 4·0 to 5·0 respectively. The authors conclude that urea stibamine is more potent than neostibosan.

Treatment of Cutaneous Leishmaniasis with Ricinus Seeds

Kassirsky (*Med. Parasit & Parasitic Dis. Moscow.*, 1935, Vol. 4, Nos. 1-2) describes the treatment of the ulcerating form of oriental sore in Tashkent with an ointment made from the whole seeds of Ricinus, ground up and mixed with 10% vaseline. The ointment, based on a local remedy, was applied every few days to the ulcer which was either covered with a collodion dressing or bandaged. The first application usually produced considerable irritation and a copious discharge of pus, but as the treatment proceeds, the irritation diminishes and healing may take place after 3 or 4 applications. The active principle is apparently ricin a toxalbumin which, according to Noguchi, agglutinates red corpuscles and leishmania. The author believes that ricin also stimulates the production of local immune bodies and is toxic to the flagellates and the pyogenic

bacteria. The total number of cases successfully treated without leaving any traces was 16, some of which were in a very serious condition owing to various complications and had not responded to treatment by other methods. An attempt to apply the active principle to the treatment of canine visceral leishmaniasis failed for aqueous extracts containing 0·000004 gm. ricin introduced intramuscularly killed the dogs after the first or second injection. (Summary, *Tropical Diseases Bulletin*, January, 1936, p. 31)

A Case of Empyema Caused by Heterotopic Parasitism of an Ascaris Lumbricoides

UJIIE (*Jl. Med. Assoc. Formosa*) writes that he has collected records up to the end of 1934 of 207 cases of ectopic parasitism by this worm of which 6 were cases of invasion of the pleura. He now gives the history of a boy of 3 suffering from empyema for which he was operated. Three days after operation a small (16 cm. long) mature female ascaris came out of the wound and the worm was found to contain many fertilized ova in its uterus. The pus contained also B. coli and staph. aureus.

Prognostic Value of Red Corpuscle Sedimentation and of Eosinophilia in Ankylostomiasis

TIMPANO (*Ann. D'Igiene*, April, 1935, pp. 263-266) studied sedimentation rate and eosinophilia in 27 patients with ankylostome infestation and 7 control cases and found that S.R. is increased in ankylostome infestation and remained so long as the infestation continued but the rate again becomes normal when one gets rid of the hookworms (2 to 3 weeks after removal of the worms). The author further observed that the rate increase was not proportional to the number of worms but rather to changes set up by them. Regarding eosinophilia "the author makes no fresh addition to our knowledge that the degree of eosinophilia is unrelated to the amount of infestation."

Meningism of Helminthic Origin

ZAN (*Chinese Med. Jr.*, July, 1935) writes that intestinal parasites, chiefly hookworm and ascaris may be the cause of meningitic condition as the removal of the parasites brings the symptoms to an end. Two types of cases are met—(1) a meningism with no organism in the C.S. fluid which becomes slightly turbid, and (2) a meningitis with micro-organism and a cloudy fluid. After removal of the parasites cure was effected in all the cases of the first condition and of 33·78% of 74 cases of the second.

Bacteriophage in Cholera

PASRICHA, MONTE, and O'FLYNN (*I. M. G.*, February, 1936, p. 61) write that a series of 1,369 cases of cholera admitted into the cholera wards of the Campbell Hospital, Calcutta, during the year ending 30th July, 1935, have been investigated. Of these 684 cases were treated with specially prepared cholera-phage and 685 were not treated with cholera-phage. Taking recovery or death as the sole criterion of the value of cholera-phage it has been found that bacteriophage has caused a real reduction in the mortality of the cases passing vibrios and that this reduction is more marked in those cases which show agglutinable vibrios. There is no significant effect on cases passing inagglutinable vibrios or in cases which are bacteriologically negative. The authors further observe that there is a marked reduction in the incidence of uræmia in the phage-treated cases.

PEDIATRICS

Immune Globulin (Human) as Preventive of Measles

LANING and HORAN (*Michigan State. Med. Soci. Journ.* December, 1935, p. 772) used immune globulin (human) an extract prepared from the placenta in 93 cases of measles given either shortly after exposure to prevent the disease or from 7 to 10 days after exposure to modify it. It was used in 19 cases to prevent measles in doses of 2 c.c. in seven cases and 10 c.c. in 12 cases, injected one to four days after a known exposure. In 12 of the cases the disease was prevented and in the remaining 7 cases it was much modified—fever, eruption, conjunctivitis, and nasopharyngitis—all being present, but only in a lighter degree. Immune globulin (human) was given in 2 c.c. doses in 74 cases for modifying measles and the result was magnificent, the course being light in 68 cases and moderate in 6. Of 46 cases to whom no immune globulin was given, the course of measles was light in 9, moderate in 11 and severe in 26 with 2 deaths.

Hæmaturic Nephritis of Children

NOBECOURT and BRISKAS (*Archives de Medicine des Enfants.*, November, 1935, p. 660) studied 26 cases of hæmaturic nephritis occurring in children (19 boys and 7 girls) ranging in age from 5 to 13. The cause was infection of the nose and throat in 19 cases (73%), impetigo in 2 cases, paratyphoid infection in 1, injection of anti-diphtheritic serum in 1 and was undetermined in 3. The nephritis sometimes started very rapidly occurring during angina, sometimes 10 days or 2 weeks later. In general urine was diminished, colored more or less red, and cloudy. Œdema was not frequent; uræmia was usual but transitory. The blood cholesterol and total lipoids were usually increased. The prognosis of these nephritides is generally favourable, almost all the patients recovering in some weeks or months.

Blood Transfusion in Malignant Diphtheria

SECKEL (*Medizinische Klinik.*, December 6, 1935, p. 1603) records in a tabular form the results of 46 cases of malignant diphtheria treated with blood transfusion in addition to treatment by antitoxin and has brought down the mortality from 80% to 40%. The malignant diphtheria is characterised by extensive coating and œdema of the pharynx, disfiguring the peri-glandular œdemas along the entire neck, sero-sanguinous discharge from the nose, eventually hæmorrhages, with severe disturbances of the general condition of the patient. The author writes that by this particular method of treatment the general condition of the patient is improved, the myocarditis is either prevented or modified and improved and respiratory failure is almost entirely prevented. The author concludes that auxiliary blood-transfusion is the most important progress in the treatment of diphtheria since the introduction of sero-therapy.

Empyema in Children

GEZELINS (*Acta Chirurg, Scand*, 1935, 77, pp. 145) reviews 159 cases of empyema in children up to 15 years of age of which 135 were treated by radical operation with recovery in 115 cases. The mortality was highest in infants (7 deaths in 14 cases) and lowest in children between 5 and 10 (7 deaths in 59 cases). The prognosis was also most unfavourable in streptococcal empyema and empyema with mixed infections. The most common complication was otitis media. Nephritis and pericarditis were less common but had a more unfavourable influence on the prognosis of the disease.

Treatment of Acute Nephritis in Children

ANDERSON (*Jr. of the Iowa State Med. Soci*, September, 1935, pp. 471-475) gives in the following lines the treatment of post-infection type of nephritis. He deals with the subject under two big heads:—(1) treatment of the attack, (2) treatment of cerebral complications.

I. Treatment of the attack—(a) infection—surgery is not contra-indicated in acute stage. If drainage of ear infection or abscesses in the pharynx, nose or cervical region is required it should be done under local or gas anæsthesia. The operation is sometimes followed by immediate improvement in the clinical picture.

(b) Toxic manifestations are dealt with by sufficient fluid administration and moderate catharsis. Of the drugs to be used the author recommends only acetyl-salicylic acid for symptomatic relief, potassium citrate as a harmless alkali and big doses of magnesium sulphate for relief of cerebral symptoms. The author interdicts the use of sodium salts as sodium ions favour the formation of œdema.

II. Treatment of cerebral complications:—Preventive treatment is extremely important. Adequate fluid provision will reduce the number of patients showing toxic cerebral symptoms. Daily record of blood-pressure will indicate the advent of uræmia. The treatment of the actual attack of uræmia in patients who are able to take fluids consists of (a) liquids in plenty, (b) food of all forms with restriction of proteins, (c) 50% solution of mag. sulph. in 1 to several ounces daily per mouth (even 9 to 10 ounces do not cause diarrhœa, if there is œdema) and in patients who are comatose or vomiting excessively 100-300 c.c. of 2% mag. sulph solution given intravenously (2 to 3 c.c. per minute) according to weight of the child and severity of the symptoms. The author has also found very encouraging results with intra-muscular injection of 50% mag. sulph. solution in 2 to 6 c.c. doses every few hours according to the symptoms and the blood-pressure.

PRESIDENTIAL ADDRESS AT IV EAST & WEST KHANDESH MEDICAL PRACTITIONER'S CONFERENCE

JIVRAJ N. MEHTA, M.D. (Lond.), M.R.C.P. (Lond.), F.C.P.S. (Bom.)

LADIES AND GENTLEMEN,

I thank you very sincerely for the honour you have done me by asking me to preside over your Fourth Annual Session. I welcomed the opportunity of meeting you all, because while I knew first hand the problems of medical relief in a City like Bombay, I was less intimately in contact with the organisation of medical relief in district towns and rural areas and I was anxious to acquaint myself with it at this Conference.

INSTRUCTION IN MEDICAL SCHOOLS

There are a great many questions which at present engage the attention of the medical profession. One of the most important is Medical Education. In this matter, unfortunately, we are confused by various systems of medicine in this country, viz. Allopathic, Ayurvedic, Unani, etc, etc., and even in the particular system which we follow, standards of education vary a great deal. It is essential in the interest of the profession we follow, that a minimum standard of Medical Education should be laid down by a central medical authority like the Medical Council for India, not only for those proceeding for the University degrees but also for the Licentiates. The system of education as imparted in the schools for the latter needs overhauling. It is indeed a happy augury that the Licentiates themselves are anxious to bring this about. Medical Science has grown so rapidly of late that it has become well nigh impossible to receive a thorough training in it, within a period of less than five years after Matriculation. The number of admissions to medical schools needs to be regulated in accordance with the facilities available for laboratory work and clinical instruction, if the practitioners passing out of these institutions are to be efficiently trained.

3. It is indeed a matter of regret that enough laboratory equipment work does not exist in some of the schools, and that in the hospitals attached to some of them, beds are either inadequate or too disproportionately distributed on the medical, surgical or obstetric, etc. sides to permit a well-balanced practical and clinical instruction to be imparted to the students. Further, the system of appointing teachers in the schools under Government control leaves much to be desired. The interests of service are still allowed to predominate. In several cases teachers are appointed without a post-graduate or special qualification in the subjects they are called upon to teach. Not infrequently one teacher gives instruction in two entirely different subjects. Medical science is such a wide field that you cannot attain proficiency in every branch of it even with a life's study. The practice of one man teaching more than one subject was perhaps excusable when there was a dearth of qualified teachers and specialisation unknown; but now that it has become increasingly possible to secure better qualified and specially trained persons who can efficiently fill teaching posts in all important centres where Government medical schools are situated, it is high time that these antedeluvian methods ceased. It is a matter of satisfaction that not only the Bombay Medical Council and the College of Physician and Surgeons, Bombay, are giving attention to these problems, but the Government of Bombay have felt the necessity of an enquiry into these questions. Let us hope that the enquiry will be thorough, and the evils noticed will be radically dealt with as early as possible. I hope the terms of the Committee of Enquiry will be wide enough to cover all aspects of the question of medical education for the Licentiates. I would go even further and ask, is it really wise or necessary to continue the Licentiate course? The demand for admission to the two medical colleges in the Presidency is so great that the scope of the enquiry may be well extended to consider if the existing medical schools could not be converted into medical colleges. This should not be very difficult, so far as the school in Poona is concerned.

Post-graduate Medical Education

4. Medical Education, as you all know, does not stop with the attainment of a medical degree or qualification. The progress of medical science, particularly on the bio-chemical side is so rapid and the clinical opportunities in private practice so restricted, that the development of post-graduate instruction for the benefit of the general medical practitioner has become imperative. In Europe and America such instruction is given either in special post-graduate schools or by the opening of special ' Refresher courses ' in medical colleges. With the help of the Honorary staff, particularly the junior Honorary staff, in the two teaching hospitals in Bombay, the possibility of instituting such a course may well be considered. Will there be a sufficient response from the general medical practitioners if such a ' Refresher course ' is organised? It would mean the payment of a sufficient fee by them to make it worth while for the staff to take up such work. You are in a better position to advise to what extent it would be possible for a practitioner in the mofussil area to leave his practice to attend such a course, say, once every three years; the course being of course organised every year—for about 4 weeks—preferably during the vacation period.

Extension of Medical Relief

5. Another important question which invites attention is the development of public medical relief in the mofussil areas, particularly rural areas. In large cities like Bombay, Ahmedabad and Poona about 50% of the patients attending hospitals come from outside these cities thus encroaching to that extent on the limited hospital accommodation of those cities. In spite of the increase in the number of beds to the extent of about 1,500 in the city of Bombay during the last 12 years, the demand for admission into hospitals is so great, partly to the growth of ' hospital habit ' in the people and partly to the influx of patients from the mofussil, that the Bombay hospitals are always overcrowded, and many patients have every day to be refused admission for want of accommodation. Unless, therefore, the district hospitals are improved by the appointment of better qualified and experienced medical officers and by the increase of bed accommodation in them, and unless the Taluka dispensaries are converted into small cottage hospitals, the difficulties of those responsible for hospital administration in large cities are not likely to be minimised. At the present moment about 300 to 400 beds, though already constructed in Government hospitals in Bombay, are lying idle for want of funds. Government find it difficult to provide finances for opening these beds on account of the increased demands of the district and rural medical relief on their resources. In the Legislature, there is unfortunately a rivalry between those members who come from the districts and those who hail from the city of Bombay, with the result that the former who constitute a majority carry the day and the splendid hospital buildings erected eight or ten years ago in the city of Bombay still remain empty for want of funds, even though, as already stated, the Bombay city hospitals provide medical assistance to mofussil patients to the extent of about half the total number of beds available. The problem is no doubt very difficult. I have already urged the necessity of providing more beds in the district hospitals. But even with the development of such hospitals, a fair number of patients from the mofussil would still continue to go to big cities for expert treatment. The question therefore is how medical relief can be conveniently extended both in the cities and the district areas.

6. It may well be asked, is there not sufficient scope for economy in the present system of hospital administration? Is it necessary for Government to engage highly paid medical officers? Is it not possible to save enough on this head of expenditure and to utilise the savings for opening more beds? In the past, owing to the paucity of medical practitioners in the country, it was necessary for Government to employ medical officers for the treatment of the general populace as well as of Government servants. With the rapid growth in the number of medical practitioners, some of them very well qualified and experienced, all over the Presidency, there seems to be no necessity now of employing highly paid medical officers in district hospitals. So far as the treatment of Government employees is concerned, they can now arrange for their own treatment with private medical practitioners as is done in England. It is well worth considering if the district hospitals and dispensaries cannot be handed over to the district municipalities and Local Boards, Government giving them the necessary grants corresponding to the amount now spent by them on these institutions and exercising control over their management.

The Local Boards and Municipalities should, on the other hand, provide the necessary funds for the extension of medical relief in their respective areas. As a large number of highly qualified doctors are now available and as the number of such doctors is increasing every year, they could be appointed as Honorary medical officers in the district hospitals in the same way as at the various County Council hospitals in Britain, a resident medical officer previously trained in the large teaching hospitals, and a Steward or Secretary being employed to carry out the internal administration of the hospitals under the direction of a Hospital Committee of the Municipality or Local Board.

7. To bring about such a reorientation of our medical policy, a number of difficulties will have to be faced; but with will and effort none of them need be insurmountable. Unless some such radical change is introduced in the hospital administration and medical relief in the Presidency, I fail to see how medical relief could advance rapidly throughout the Presidency. I hope the Government of Lord Brabourne would consider the possibility of exploring this method of expanding medical relief. A start may be made in certain areas only, say by stopping the recruitment of new officers in the provincial and subordinate medical services. The prospects of the present incumbents will not be affected thereby. In case the district hospitals are handed over to the Municipalities or Local Boards, there is a great likelihood of these hospitals receiving gifts in cash or kind on festive occasions from the local inhabitants. Such help will be material in reducing the cost of the hospitals, as seems evident from the experience of the Seth Vadilal Sarabhai General Hospital, Ahmedabad, whose annual reports for the last three years give much information on this point.

8. So far as rural medical relief is concerned, the idea of the Licentiates' settling in such areas is far from being fulfilled. From the information I had collected in 1931, I had found that a very large number of Licentiates settled in cities or in towns with a population of over 10,000 inhabitants. To induce the medical practitioners to settle in rural areas, it seems very necessary to give them some subsidy. I take it that the present Surgeon-General with the Government of Bombay—Major-General Bradfield—who spent several years in Madras, is conversant with the scheme of subsidising rural medical relief in that Presidency, and will consider the possibility of introducing a similar arrangement with the necessary safeguards in this Presidency. This experiment may also be started in certain selected areas. Anyhow Government would do well to explore this question.

Rural Sanitation

9. Any discussion on rural medical relief would not be complete without a reference to rural sanitation. As I am not familiar with this branch of medicine, I prefer to say little except to urge that this has long remained untackled on any appreciable scale. It is indeed a vast problem. It has to deal with the village water supply, the disposal of the night soil, and the proper construction of well-ventilated houses. The town planning of villages and the construction of such roads in them as would reduce the dust nuisance to the minimum would need also to be considered. I would refer here only to the question of the disposal of the night soil. Gandhiji, while he has occasionally amused the medical profession with some of his theories regarding the causation and treatment of diseases, has laid us under a deep debt of gratitude by the way in which he has been tackling the problem concerning the disposal of the night soil at Wardha and elsewhere. If his experiments are a success, he will have greatly helped in solving this difficult problem for rural areas.

Chairs of Ayurvedic and Unani Systems

10. In all questions affecting rural medical relief the question of the cost of medicines should always be remembered. It should be brought down to the lowest possible limit to make it possible for the poor villagers to pay for the medicines. The advantage of the Ayurvedic and Unani systems lies in that the practitioner in these systems are able to suggest medicines which the very poor can afford. With the position to which Materia Medica is being relegated in our medical curriculum, it has become impossible in the medical colleges to teach students the relevant knowledge about drugs or household remedies which the poor can buy conveniently. A question has been raised if the institution of chairs of Ayurvedic and Unani systems in the medical colleges would help in increasing the use of the household remedies by the rich and poor alike, and further help to reduce the import of foreign drugs. I do not feel myself competent to advise on this question. But it does

seem to me that if a Chair on the ancient Indian system of medicine is instituted in the medical colleges, it would undoubtedly be in the best interests of medical education and research, and consequently of medical knowledge. With the help of such a teacher, it would be also possible to prepare pamphlets in easy vernaculars explaining the use of the most common household remedies met with in the Ayurveda for general use, and particularly to the benefit of the poor.

Development of the Hospital Requirements Industries

11. The more important thing is to foster the cultivation of medicinal plants on a large and scientific scale in the country to develop the drug industry, as well as the manufacture of surgical instruments and dressings and other hospital requirements including the scientific apparatus. The K. E. M. Hospital and the Seth G. S. Medical College have done quite a lot, I am glad to say, in this connection. For the manufacture of cotton wool and lint in Bombay I had made great efforts as early as 1926-27. We considerably helped the use of vaccines and sera made in India. The result has been the price of cotton wool is now about half of what it was ten years ago, of lint about two thirds and of sera and vaccines less than half. We have also encouraged the manufacture of hospital equipment to a large extent and of surgical instruments and scientific apparatus to some extent. A great deal yet needs to be done in these directions.

12. It is however evident that if we encourage the growth of indigenous industries relevant to the requirements of hospitals the cost of medical relief would undoubtedly go down and to that extent more public medical relief would be made available. If the history of the sale of a tube of Salvarsan at hundred rupees, each, is not to repeat itself on the outbreak of another war, which according to some, looms large on the horizon, our efforts for the development of these industries will need to be redoubled. While on this subject, may I not repeat what has been so often said regarding the urgent necessity of giving effect to the recommendations of the Chopra Committee to prevent this country being the dumping ground of all cheap or worthless and even harmful medicines. An effective control is also necessary on the local manufacturers as well. Sir Fazli-i-Hussein when opening the exhibition in connection with the Annual Medical Conference held in Delhi in December 1934, made a public announcement about the Government of India having taken up the active consideration of putting the Chopra Committee's recommendation into effect, but although 15 months have passed since, we see no proposals coming forward.

Spread of Pulmonary Tuberculosis

13. I would like to take this opportunity of warning the public of the great inroads that pulmonary tuberculosis is making in the country. I find that Kathiawar, which has an excellent dry climate, is rife with it, due partly to the ignorance of people as to the way consumption spreads from man to man, and partly to their poverty which has much reduced their vitality to withstand the onslaught of the disease. If it is to be prevented from spreading, a great deal of propaganda is necessary to educate the people as to the disposal of the sputum of tubercular patients and other preventive measures for avoiding infection. It is also necessary to have wards for tubercular patients in large teaching hospitals, partly as treatment centres, partly as propaganda centres and partly for the proper instruction of medical students. Special tuberculosis hospitals in all large cities and sanatoria on the hill stations have also to be provided. There seems to be a feeling abroad that tubercular hospitals should not be started in Bombay in view of its climate. I regret to say that such remarks are given currency even by medical men. They seem to forget that the provision for the treatment of tubercular patients in large cities is only the first step in the campaign against the eradication of the disease. A city like London with its very bad climate in the winter has several such hospitals. How can tuberculosis be prevented from spreading in cities unless the city patients suffering from the disease are treated in some hospitals and thus isolated from other people? Eradication of pulmonary tuberculosis is, no doubt, a big problem but unless it is tackled vigorously, the country will have to suffer heavily in course of time from the ravages of this white plague.

Nutrition Research

14. The problem of nutrition is also important. We are at the present moment engaged in working

out the essentials of an ideal dietary under local conditions at the Seth Gordhandas Sunderdas Medical College, in close collaboration with the Bombay Presidency Baby Health Week Association and with the help of grants from the Sir Dorab Tata Trust and the Indian Research Fund Association. The problem is, however, so large and the funds at our disposal so meagre, that it will take some time before this problem is satisfactorily tackled from every point of view. I would appeal to those who have funds to dispose of in charity to help us in pursuing this enquiry.

Sickness Insurance

15. It is gratifying to note that Government were considering the question of introducing some form of Sickness Insurance for certain groups of industrial workers. In this connection, I cannot help but register a protest that the members of the medical profession have been entirely ignored in the preliminary enquiry which Government made on the subject. I hope that in all subsequent enquiries the members of the medical profession will be duly consulted. It was with the co-operation offered by the members of the medical profession in Britain that the National Health Insurance Act has become a great success in that country. I may add that the provision of sickness insurance would go a long way in overcoming the difficulties of organising rural medical relief. It would be, therefore, a great pity if domestic and farm labour are excluded from the purview of the Act at the start.

Nursing and Health Visiting

16. Lastly, I would like to say a few words on the necessity of developing the nursing profession in the country. Christian ladies have been the pioneers in this field in India. The Parsis have also begun to appreciate the value of nursing as a vocation. Hindus and Mohammedans are still backwards. I would appeal to them to consider the advantages of joining this profession. It is doubly blessed in that they play an important part in the growth of medical relief and in that they are enabled to have a vocation of their own and an economic independence. Besides nursing, the Health Visiting is also a very useful profession. An excellent school for the Health Visitors' course has been recently started in Bombay. Nursing and Health Visiting afford ample opportunity of humanitarian work and economic independence to those ladies who may think of seeking a profession after passing the Matriculation.

17. Ladies and Gentlemen, there are still several problems on which one is tempted to speak, such as the constitution of the Indian Medical Council, Medical Ethics, the organisation of medical research in the country, medical inspection of school children, the development of physical culture, the necessity of developing a hobby for medical men, the institution of a medical defence union, etc., etc., but I have already detained you long and I close. I thank you most cordially for the honour you have done me by electing me your President this year.

(Address delivered on March 8, 1936, at Bhushawal).

PROPOSED ENQUIRY INTO INDIA'S MATERNAL MORTALITY

The following interesting Press Note has been issued by the Government of Bengal:—

The recent Medical Research Workers' Conference at Calcutta has recommended to the Governing Body of the Indian Research Fund Association that there should be an enquiry into maternal mortality and morbidity in India. It has been suggested that the enquiry should, if it is to be productive of results, proceed on a broad basis and include at least two rural and two urban centres, for India with its variety of climates and differences of customs, dietetic and other habits, enquiries based on a single centre will hardly be of sufficient value to justify legislative and administrative action elsewhere. Some preliminary work done by Dr. Margaret Balfour has already indicated that there is reason to believe that, in Madras, the most important cause of maternal mortality is eclampsia and that this cause is operative, though to a less extent, in Bengal, while as one passes through the United Provinces, Delhi and the Punjab to Kashmir osteomalacia becomes a factor of increasing importance. The areas suggested for the proposed enquiry are the rural portion of the Delhi Province, representing the area where osteomalacia is important; the rural area near Madras, which is typical of Southern India conditions and is in many respects dissimilar to conditions in Northern India; Bombay, where anæmia of pregnancy is widely prevalent and lastly Calcutta, which may be taken as representative of North-Eastern India.

Spectacular in their rise, dramatically rapid in their spread and eventually mysterious in sudden disappearance, epidemic diseases, no doubt, attract a good deal of attention; yet maternal mortality and morbidity together constitute one of the major public health problems of India from the standpoint of national welfare as important as, if not more important than cholera, plague and small-pox.

The following comparative statement of maternal mortality in India and some progressive countries of the world will give some idea of the extent of the damage done to India by the death of mothers in the act of childbirth. The maternal mortality given below is for 1,000 births.

Holland 2·4; France 2·5; Sweden 2·6; Denmark 2·6; Norway 2·8; Italy 2·8; Japan 2·8; Finland 3·1; England and Wales 4·0; Switzerland 4·4; New Zealand 4·8; Irish Free State 4·8; Australia 5·5; Scotland 6·6; United States of America 8·3; Madras Presidency (special investigation in 16 municipalities) 15·4; Madras City (Dr. Mudaliar's Report) 16·6; Sir John Megaw (an enquiry into certain public health aspects of village life in India) 24·5; and 31 tea gardens in Assam (Dr. Margaret Balfour's Report) 42·0.

All these figures, except the last four, are taken from Dr. Mudaliar's Report in Maternal Mortality in Madras City. In regard to India, it must be admitted that the figures are not reliable. Vital statistical registration is even now very defective, though there has been lately some improvement. All the four estimates quoted above, however, leave no room for doubt that maternal mortality is abnormally high in this country.

The significance of these high figures for India may be indicated in another way. At the 1931 census an associated enquiry into the fertility of women in India was carried out and gave 4·2 live children for every mother in the country. (Unreliable as this estimate is for reasons already stated, estimates of the number of still births in India are even more unreliable). Assuming, therefore, on this basis that the women are likely to be exposed to the risk of undergoing maternity at least four times during their reproductive period, it is clear that, if Sir John Megaw's estimate (24·5) be even approximately correct, about a hundred women out of a thousand in the country lay down their lives in childbirth.

Sir John Megaw's estimate is that about 200,000 women die every year from maternal causes. This figure is equal to the combined annual mortality from small-pox and plague in India during the period of ten years, 1923-32. It is almost equal to the annual deaths from cholera during the same period. When it is considered that every maternal death is bound to have a greater repercussion on home life than deaths from these epidemic diseases, which may affect any person in the family who need not be the mother or the wife, it will be realised that it is

a wholly short-sighted policy to ignore the consequence of this terrible slaughter of innocent mothers and concentrate all our energies on the problem of epidemic diseases alone. But that has, unfortunately, been the position in India these many years, and it must be remembered that the public health policy is largely determined by public opinion.

The problem of maternal mortality and morbidity requires propaganda if public opinion is to be mobilised and the public conscience aroused for combating the evil. There is no propaganda so effective as the marshalling of facts carefully collected and properly presented to the public. One of the immediate results of the proposed enquiry should be the awakening of the public mind to the magnitude and urgency of the problem at a time when a wide transference of powers and responsibilities is imminent.

NUTRITION RESEARCH IN INDIA

A Press note issued by the Government of Bengal states:—

The Nutrition Research Laboratories established by the Indian Research Fund Association at Coonoor while they can constitute only one link in the chain of agencies essential for a comprehensive survey of the nutritional surveys of the country are yet of such importance as to merit wide recognition. Nutrition and immunity together constitute the master instruments hitherto discovered in man's fight against disease. It is recognised that a well-balanced diet should provide adequate energy value to the individual in relation to his work and the nature of the climate of the place in which he lives, while a proper content of proximate principles calcium, phosphorus and iron and the inclusion of vitamins in the diet are essential to ensure proper growth in the young and the maintenance of health in persons of all ages. Thus, faulty nutrition may be an important factor in lowering the health and reducing the longevity of a nation.

In a country like India with an expanding population which already exceeds that of China proper, the importance of nutritional surveys, both from the quantitative and qualitative aspects of the problem in India, is apparent.

Under the direction of Sir Robert McCarrison, lately of the Indian Medical Service, who was a pioneer in nutritional research in India, the Indian Research Fund started work in Coonoor about 1917 and, within the last eighteen years, laid the foundations of nutritional research in India. About seven or eight months ago, Sir Robert was succeeded by the present Director Dr. Aykroyd recently arrived from Geneva where he had been working under the auspices of the League of Nations. Dr. Aykroyd has, within the short period of the stay in this country, added fresh energy and suggested new lines of investigation.

With the help of two chemists a preliminary survey of about 300 foodstuffs considered as the minimum necessary for practical purposes and including all the widely-used and important foods has been undertaken at the Coonoor Laboratories. About 25 articles of food are examined every month and their energy value and content of proximate principles, calcium, phosphorus and iron are being estimated. Chemical and spectrophotometric determination of the content of vitamins A and C and of protein in common Indian foodstuffs is also in progress, while other types of vitamins, such as vitamins B_1 and B_2, which cannot be chemically estimated, are being assayed biologically by feeding experiments on animals.

The problem of cheap well-balanced diets so vital to this country is also being investigated. About seventeen diets resembling in a general way diets in habitual use in India, have been tested by feeding experiments on rats and by chemical analysis. They are now being applied to residential institutions

for children in order to determine whether the laboratory finding will be corroborated by the experience of human communities.

Examination of children in famine camps, schools, hostels, etc. is also being made with the object of establishing standards of average height and weight for the various classes of the Indian community, without which no progress can be made in the study of problems of human nutrition. Side by side the incidence of food deficiency diseases is also being studied.

Various other studies, such as the effect of cod-liver oil on the healing of wounds and burns produced experimentally and the production of diabetic symptoms and pancreatic lesions in rats by diets resembling those associated with diabetes in India are also in progress.

In addition Sir Robert McCarrison's well-known work on experimental production of stone in the bladder is being continued.

Side by side with these purely scientific activities a certain amount of time is being given to the preparation of posters for propaganda and in correspondence with enquirers seeking information about diet, food values, etc. It is understood that interest in nutritional problems is steadily growing and that enquiries have come from Mr. Gandhi downwards to elementary school masters and the guardians of students' hostels.

While the problem of nutrition has thus been receiving considerable attention mainly in its scientific aspects, what is needed, from the nation's point of view, is to associate the work at Coonoor with the larger problem of a comprehensive survey of the national resources of the country in food supply. The Research Institute at Coonoor can form only the centre for giving scientific advice and direction on various lines of research that will be needed. The larger problem of assessing the national requirements and the country's resources in regard to food supply will have to be undertaken by the future Governments of India, which under the impending reforms are being entrusted with wider powers and larger responsibilities for the health and well-being of the people. The task is indeed one in which Government, politicians, economists and statisticians all will have to take share.

BIHAR & ORISSA PUBLIC HEALTH

The following report on the working of the Public Health Department of the Government of Bihar & Orissa for the year 1934 has been published:

The total number of births during the year was 1,268,330 as compared with 1,346,948 in the previous year. The total number of deaths increased from 833,397 in the previous year to 981,599 in the year under review. This increase is due to higher mortality from cholera and fever. The excess of the birth-rate over the death-rate was 7·7 only as compared with 13·6 in the previous year.

Government view with great concern a further increase in the rate of infant mortality from 135·9 to 149·95 per thousand on the basis of actual births recorded during the year under review. The attention of the local bodies is again drawn to the importance of organising maternity and child welfare work in their areas, without which there is very little chance of improvement.

The total number of deaths from cholera rose from 17,514 to 57,298, and the corresponding death-rate from 0·5 to 1·5. Cholera broke out in epidemic form in the three coastal districts of Orissa at the beginning of the year and it was prevalent more or less throughout the year. In March and April, most of the districts in the province began to report sporadic cases of cholera, but from the beginning of May it assumed serious proportions in most of the districts of South Bihar and Chota Nagpur. The incidence of cholera in those districts of North Bihar which had been affected most by the earthquake was

comparatively low. Epidemic doctors were, as usual, detailed by the Public Health Department of Government to assist the local bodies in combating the epidemic. The demands for these doctors were numerous from the districts which have no permanent health organisation. Disinfectants and cholera vaccines were supplied as usual.

The Indian Research Fund Association closed down the bacteriophage enquiry at Patna at the beginning of the year, but the Local Government continued the work at their own cost. Cholera-phage was prepared and supplied to various towns and districts in the province during the cholera epidemic, and its use produced favourable results as in the previous years. It was extensively used during the Ratha and Snan Jatra at Puri through drinking water. Owing to the increasing demands for the phage, arrangements have been made for its production in larger quantities.

It is gratifying to note that the total number of deaths from small-pox decreased from 42,670 to 30,310 and the death-rate was 0·8 against 1·1 in the preceding year. The lower death-rate, in the opinion of the Director of Public Health, was due to the recession of the epidemic wave experienced during the previous year. The rural areas suffered more than the urban areas, and the highest death-rate was registered in the districts of Cuttack and Purnea, while the districts of Muzaffarpur, Saran, Champaran and Darbhanga returned the lowest death-rate. Among the towns, Puri, Jamalpur, and Daudnagar reported the highest rates of death. Primary vaccination was carried on extensively in all the districts and compulsory primary vaccination has been enforced in ten districts up to date. The control of vaccination has been transferred to the districts which have public health organisations under district health officers. It is hoped that in the near future all the districts of the province will be in a position to take over the direct control of this important public health measure. In view of the apprehension of an outbreak of small-pox in the earthquake-affected areas in North Bihar, special regulations for the prevention and control of small-pox were enforced under section 2-A of the Epidemic Diseases Act from March to September, 1934.

5,411 deaths occurred from plague against 1,635 in the preceding year, and the death-rate was 0·1 as compared with 0·04 in the previous year. After many years it broke out in the district of Champaran with 107 deaths. Out of them 63 deaths were reported from Bettiah town which got infected immediately after the earthquake. Necessary preventive measures were taken by the Public Health Department of Government.

During the year under review dropsy broke out in epidemic form in the Sadar sub-division of the district of Manbhum and 839 deaths were reported from the affected areas. The Assistant Director of Public Health, Chota Nagpur and Orissa Circle, visited the affected areas several times and a batch of doctors under Col. R. N. Chopra, C.I.E., I.M.S., of the School of Tropical Medicine, Calcutta, also visited Purulia for investigation.

All the School Medical Officers and Assistant School Medical Officers were detailed to the earthquake-affected areas as an emergency measure for the greater part of the year, and consequently not much medical inspection work was performed during the year. 2,287 boys and 485 girls were examined. Out of them 963 boys and 377 girls were found to be defective. On re-examination 367 boys and 94 girls were found to have been benefited by their medical examination.

Immediately after the earthquake the Public Health Department sent out doctors with first-aid equipment to Monghyr and a party of seven medical officers of health and the Assistant Director of Public Health, South Bihar Circle, to North Bihar. These officers successfully organised the daily cleaning of the roads and drains, removal of nightsoil, disinfected of drinking water supply and devised other preventive measures to check the spread of epidemics in the affected areas.

HEALTH PROBLEM IN INDIAN STUDENTS

HEALTH OF STUDENTS IN CALCUTTA SCHOOLS

The following Press note on the medical examination of students in the schools of Calcutta, has been issued by the Government of Bengal:—

The success of the scheme of School Medical Service depends upon the education of the public, co-operation of the teachers, earnest desire of the guardians for the improvement of their wards' health arrangement for early and compulsory treatment and care of children by the guardians before they are sent to school. In a province like Bengal where the scheme is practically a new one and neither the teachers nor the guardians are educated enough to appreciate correctly the value of the work, not even half as much as the teachers and guardians in other countries like England, it will require years to show some amount of appreciable success.

This is the opinion expressed in the latest report of the School Medical Inspectors for the Government-aided Schools in Calcutta.

Apart from students who have definite defects, says the report, quite a large number is apparently in bad health. This may be due to prolonged neglect of health in the past, some digestive or respiratory troubles in infancy, inherited constitutional or some other unknown hereditary factor. Poverty, want of nourishment, and unhygienic home surroundings are also contributory factors.

Of 4,534 boys examined during 1933-34, 2,273 or nearly 50 per cent. were found to be defectives. Defects of the eye account for nearly 30 per cent. of the defects, the common eye defect being defective vision with myopia found in a fair percentage. Enlargement of tonsils comes next with 27 per cent. and diseases of the digestive system are responsible for 22 per cent. of the defects. Nearly 10 per cent. of the students were found to have carious teeth and 35 per cent. to be victims of malnutrition.

A distressing finding is that 90 per cent. of the students do not take physical exercise at all and that in consequence a large number suffer from constitutional defects from which they would otherwise have been free. Parents, guardians, teachers and students themselves who care more for the studies than for the physique are apparently forgetful of the fact that improvement in studies is better possible in a good physique free from disease than in a wretched structure. There is no arrangement for tiffin in any of the schools inspected, 10 per cent. get tiffin from hawkers while only 3 per cent. of the students bring tiffin from home which means that the great majority, nearly 87 per cent., go without any tiffin.

The number of boys with defective eye sight, it is stated, is on the increase. Nearly 17 per cent. of one-sixth were found to have the worst vision, unable to see figures on boards or obliged to hold their books very close to eyes. The Medical Inspectors think that while the more general causes operating for the production of this defective vision are the general low physical stamina in the students, steady expansion of academic education with consequent strain on the eyes and weakening of the already weak eyes, malnutrition, and want of foods rich in vitamins, the chief factors directly operating during the "schooling age" are ignorance of hygienic rules including faulty habits of sitting and holding books, want of proper light for reading, reading too long at a stretch, absence of proper routine, use of books with small prints, want of long vision in the towns, and looking at very glaring light and at very rapidly moving objects (e.g., in frequent visits to cinemas). It has been found that children generally sit stooping over their books, holding them very close to their eyes. The boards in the schools too are sometimes placed far beyond the limit of the usual distant vision while desks are not always made of suitable height and their tops are not sloping. The Medical Inspectors advise that where the students do not use chairs and tables at home, they should use a simple contrivance, for instance, a low stool or like thing placed in slanting position a foot below their eyes for the support of their books and sit erect. It is also suggested that light should be properly balanced, being neither too bright nor too dim and should come from the left side and behind

and benches in school rooms should be arranged accordingly.

Enlargement of tonsils, the second among the major defects, has been found to be associated in a great many cases with adenoids and glands in the neck among children living in insanitary dwelling houses, belonging to schools with damp rooms and among the poorer section of the people. Sunshine, open air and good food, it has been suggested, will reduce the incidence.

The causes which contribute to the prevalence of bad teeth are, it is thought, low physical stamina, insufficient mastication of foods, use of soft cooked foods, absence of hard and raw foods, fruits, etc., which make the gum strong, absence from the general dietary of natural foods which supply vitamins to the system and cleanse the teeth naturally, less use of food rich in calcium and want of proper care in the students for their teeth.

As for diseases of the digestive system, "it is our considered opinion," the Medical Inspectors say, "that the increased number of cases of chronic dyspepsia and incurable acidity, attacks of pain after food, diarrhœa and intestinal tuberculosis which are found among the young people after they leave schools and colleges and settle in life and cause life-long suffering and emaciation of health in some and carry off many valuable lives in the prime of their lives, has their origin in student life."

It may be recalled that a scheme for the medical examination of school children in Government and aided secondary schools for boys in the city of Calcutta was started some years ago as an experimental measure and conducted by three Medical Inspectors of Schools under the administrative control of the Local Self-Government Department (Public Health), Bengal. From March 1, 1933, control of this work has been transferred to the Education Department and it is now carried on under supervision of the Physical Director.

HEALTH OF SCHOOL BOYS IN THE PUNJAB

The records of inspecting officers, according to a communique issued by the Director of Information, the Punjab, on the subject of medical inspection of school boys revealed that not more than twenty per cent. of school-going children in towns are really healthy.

"It has been found desirable to have separate schemes for urban and rural areas. In urban areas, Government has brought two different schemes to the notice of the school authorities. The schemes are financed by a special monthly medical inspection fee of two to three annas per student levied by schools adopting the schemes. Students enjoying concessions in tuition fees are given similar concessions in regard to this fee also. One scheme is suitable for larger areas with groups of schools which can combine and form a Students' Health Committee, engage a whole-time doctor, open a dispensary and conduct the medical inspection and treatment of the scholars of the associated schools. The other is suitable for smaller areas with single schools, which can arrange with a local practitioner for his part-time services to carry out the scheme.

"More than thirty schools and colleges in different parts of the province have adopted one or the other scheme of medical inspection outlined above."

At Jullundur and Sialkot the schemes have worked with great success and have shown excellent results as the number of students suffering from diseases has been considerably reduced. In addition to the medical inspection and treatment of the students and teachers the medical officers in-charge of the students' health clinic also arranged First-Aid Classes for the different schools and delivered lectures and talks on various health subjects. There is an excellent school dispensary in Sialkot Municipality. The boys in the high departments pay two annas a month, those in the middle departments an anna a month towards its maintenance. While the children in the primary departments pay nothing. As the Municipality is chiefly responsible for the care of children at the primary stage, it contributes Rs. 2,000 a year towards the medical inspection fund.

The chief defects in school children were those of the eyes, throat, nose and teeth and are easily curable. The possibility of providing proper dental treatment is under consideration of the small board which controls the work.

"The vast importance of these measures and their urgency can be judged from the inspecting officers' records which show that not more than twenty per cent. of the school children in towns are really healthy."

HEALTH OF BOMBAY UNIVERSITY UNDERGRADUATES

A deplorable and alarming state of affairs in the health of the undergraduates of the Bombay University is revealed by the report of medical inspection conducted under its direction, of all the students of both the constituent and affiliated colleges during the year 1934-35. The inspection was limited to undergraduates in arts, science and medicine. The principals of the several colleges were requested to see that as far as possible the various details called for were duly filled in at the time of inspection. The classification of students under the different categories A, B and C was left to be done by one of the doctors in Bombay and not by the doctors at the various centres, in order to avoid different standards of judging and to have a uniform standard. The doctor conducting the medical examination was, however, required to add a note at the end of the report on each student, mentioning any defect noticed which needed special attention and treatment. The examination was not made compulsory, but principal of colleges were requested to persuade students to submit to the examination in their own interests. Further the same was held simultaneously in all centres.

According to the statistics collected in the report, the students were placed in three classes, A, B, and C. Students with excellent physique and the pink of health were declared to have come under class A. Those under B were either of poor physique or underweight. This second class includes those who could be put right by proper physical training and dietary. C class students were those whose health and physique could not be improved owing to some inherent organic disease and which required prolonged treatment at the hands of a specialist or an operation.

The number of students examined during the year was 13,864 of whom 6,571 were in class A, 7,136 in class B and 157 in class C. In terms of percentage the figures were A class 47·4 per cent. B class 51·4 per cent. and C class 1·2 per cent. Among the colleges, according to the statistics in the report, the Karnatak College tops the list with 63·4 per cent. in A class and the Grant Medical College with 62 per cent. closely follows it. The Elphinstone College, the Sydenham College of Commerce and the St. Xavier's Colleges in Bombay rank as 8th, 14th and 16th in the list of colleges coming under class A.

The report makes the following remark in the case of the Gujrat colleges. It says: "Most of the students of the Colleges in the Gujrat group were very poor as regards their physique. The Gujerat colleges are very low in the list. Bhavnagar and Junagadh colleges stand last only with 30 per cent. of students belonging to class A. The number of those who needed glasses was 2,387. Fortunately, there were not many who suffered from either tonsils or nose defects.

The report concludes with the remark "what impresses one most is that 50 per cent of the student population of this University is of class B," and adds, "this state of affairs must be changed if the Indian nation is to make headway in this world under modern conditions, politically as well as socially."

THE SIXTH INTERNATIONAL CONGRESS OF PHYSICAL MEDICINE

ARRANGEMENTS FOR LONDON MEETING, May 12th—16th, 1936

The Sixth International Congress of Physical Medicine will meet in London in May next from the 12th to the 16th of the month. This will be the first occasion upon which the Congress has met in Great Britain. The decision to meet in this country recognizes the high standing and achievements of treatment by physical methods in Great Britain and Ireland. Foreign members have expressed their cordial approval of this change from a Continental venue and their intention to assist by their presence and active participation in the discussions.

Lord Horder has accepted the office of President of the British Section of the Congress. Mr. Ernest A. Ebblewhite, LL.D., is Hon. Treasurer; Sir Robert Stanton Woods, Chairman of the Executive Committee; Sir Henry Gauvain, Chairman of the General Committee; Dr. Albert Eidinow, Hon. Secretary; and Dr. Alexander Cawadias, Hon. Assistant Secretary.

Lord Horder will be supported by an influential body of Vice-Presidents and members of the Executive and General Committees of the British Branch, whose names are a guarantee of the widespread interest which is already being taken in the Congress by leading physiotherapists in this country.

Medical men who wish to attend the Congress are requested to communicate with the Hon. Secretary, Dr. Albert Eidinow, 4, Upper Wimpole Street, London, W.1. The Congress fee has been fixed at two guineas for each member.

The following is a list to date of the Officials and Committees of the British Branch of the International Congress of Physical Medicine (1936):

President—The Right Hon. the Lord Horder, K.C.V.O., M.D., F.R.C.P.

Vice-Presidents—The Right Hon. the Earl of Scarbrough, G.B.E., K.C.B., The Right Hon. Lord Rutherford, O.M., F.R.S., Sir Humphrey Rolleston, Bt., G.C.V.O., K.C.B., D.SC., M.D., The Hon. Sir Arthur Stanley, G.B.E., C.B., M.V.O., LL.D., Lt.-Gen. Sir Harold Fawcus, Sir Henry Gauvain, M.D., F.R.C.S., Sir William Halewhite, K.B.E., M.D., Sir Leonard Hill, M.B., F.R.S., Sir William Willcox, K.C.I.E., C.B., C.M.G., Sir Robert Stanton Woods, M.D., F.R.C.P., Professor Frank Hopwood, D.SC., Arthur MacNalty, M.A., M.D., F.R.C.P.

Hon. Treasurer—Ernest A. Ebblewhite, LL.D.,

Hon. Secretary—Albert Eidinow, M.B., B.S.

Hon. Assistant Secretary—Alexander Cawadias, M.D., F.R.C.P.

Executive Committee—Sir Robert Stanton Woods, M.D., F.R.C.P. (Chairman), Elkin Cumberbatch, M.A., F.R.C.P., Albert Eidinow, M.B., B.S., Frank Howitt, C.V.O., M.D., James Mennell, M.D., Matthew B. Ray, D.S.O., M.D.

General Committee—Sir Henry Gauvain, M.D., F.R.C.S. (Chairman), George Aldred-Brown, B.M., Philippe Bauwens, M.R.C.S., L.R.C.P., William Beaumont, M.R.C.S., L.R.C.P., Leonard Boys, M.B., F. Carter Braine, F.R.C.S., R. King Brown, M.D., Charles Buckley, M.D., F.R.C.P., J. Barnes Burt, M.D., Frank Clayton, M.D., F.R.C.P., Donald Coles, M.D., John Collins, M.D., F.R.C.P., William Copeman, M.B., M.R.C.P., Edgar Cyriax, M.D., Frank Dawson, F.R.C.S., M.D., Alfred Friel, M.D., F.R.C.S.I., K. Collis Hallowes, M.B., Francis Hernaman-Johnson, M.D., Howard Humphirs, M.D., F.R.C.P., G. Murray Levick, M.R.C.S., L.R.C.P., Wilfred Marshall, M.D., J. M. Woodburn Morison, M.D., F.R.C.P., D.M.R.E., Anthony Neligan, M.D., Bertram Nisse, M.D., M.R.C.P., Drury Pennington, M.B., J. Kerr Pringle, M.D., Herbert Rhodes, M.R.C.S., L.R.C.P., Charles Robinson, M.B., W. Kerr Russell, M.D., John Sainsbury, M.B., Gilbert Scott, M.R.C.S., L.R.C.P., W. Johnson Smyth, M.D., Frederick Thomson, M.D., F.R.C.P., A. Gordon Watson, M.D., Justina Wilson, F.R.C.P., George Worthington, M.B., William Yeoman, M.D., Major Harold Yorke, M.C., R.A.M.C.

RULES OF MEMBERSHIP

1. The Congress will consist of full members and associate members.
2. Full members will be fully qualified Medical Practitioners who have paid their subscriptions. Associate members will include Medical students, members of the Society of Radiographers, Bio-physical Assistants, State-registered Nurses and members of the Chartered Society of Massage and Medical Gymnastics.

   The Executive Committee reserve the right to accept or refuse any proposed members.

   The wives of members will be entered as honorary associate members.

   The associate members will be allowed to attend scientific meetings and the exhibition of medical apparatus but they will not take part in discussions.
3. The fee for each full member of the British Section will be £2 2s. 0d.

   The fee for associate members will be 7s. 6d.

   The fee for full members from abroad will be 250 Belgian francs.

   The fee for associate members from abroad will be 100 Belgian francs.
4. Each member and associate member will receive an official card of membership signed by the Honorary Secretary.

5. There will be six sections of the International Congress:
   1. *Kinesitherapy.*
   2. *Physical Education.*
   3. *Hydrotherapy and Climatotherapy.*
   4. *Electrotherapy.*
   5. *Actinotherapy.*
   6. *Radiotherapy and Radium Therapy.*

6. Members wishing to submit papers for this Congress must send them type-written, not later than the 15th of March, 1936.
   The official language of this Congress will be English, but papers written in English, French, Italian or German will be received.
   All members submitting papers must include a short summary type-written in English, French, Italian or German.

7. The programme of the Congress will include those papers which have been selected for discussion. These papers will be printed in the official proceedings of the Congress. Any full member may, however, submit a paper for publication. If such papers are accepted and approved by the Executive Committee they will be printed in the official proceedings of the Congress. The author will be given 500 reprints of his paper for his personal use, but may be asked to help in the cost of publication.

8. The papers selected for discussion will be read according to the plans of the official programme. Other papers which have been accepted for publication will be read in summary at the conclusion of Section meetings, and may only occupy 5 minutes.

9. Members who wish to take part in discussions are requested to notify the chairman of their wish. They will only occupy 5 minutes unless extra time is permitted by the presiding officer of the meeting.
   The chairman will have the right to terminate discussions. All members who take part in discussions must lodge their written statement and remarks with the secretary 24 hours after the discussion for the purpose of publication in the official proceedings.

10. Each speaker may use his own native language, but is requested, if possible, to speak in English, French, German or Italian. Whenever it is possible an interpreter will be allocated.

11. At the conclusion of the Congress a meeting of the International Committee will be held to decide the future programme and policy of the Congress.

All applications for membership and associate membership should be addressed to the Honorary Secretary, Dr. Albert Eidinow, at 4, Upper Wimpole Street, London, W.1.

PROVISIONAL PROGRAMME OF SUBJECTS FOR DISCUSSION

I. KINESITHERAPY.

1. Physical Treatment in Industrial Injuries.
2. Remedial Exercises in the Treatment of Scoliosis.
3. Methods of Movement and Manipulation in the Joints of the Upper Extremity.
4. The Treatment of Low Backache.

II. PHYSICAL EDUCATION.

1. Physical Culture as a Recreation.
2. The Teaching and Organization of Physical Culture.
3. The Physiology of Sport.

III. HYDROTHERAPY AND CLIMATOTHERAPY.

1. Hydrotherapy in Chronic Rheumatic Affections.
2. Hydrotherapy in Skin Affections.
3. The Employment of Muds and Fangos (Peloids) in the Treatment of Disease.
4. Climatotherapy in the Diseases of Children.
5. The Therapeutics of Sea Bathing.
6. Hydrotherapy in Gynæcological Affections.
7. Hydrotherapy in Respiratory Disease.
8. Climatotherapy in Respiratory Disease.

IV. ELECTROTHERAPY.

1. The Biological Action and Therapeutic Uses of Ultra-high Frequency Currents.
2. Electropyrexia (physical methods of production and therapeutic uses).

V. ACTINOTHERAPY.

1. The value of Natural Sun Bathing in Normal Health and its Therapeutic Action in the Treatment of the Sick.
2. Physical Methods of Measuring and Observing the Sun's Spectrum.
3. Meteorological Data Desirable and Available.

4. The Influence of Ultra-Violet Rays on Nutrition during Health and Sickness.

5. The History of Vitamin D.

6. The Dangers and Toxic Action of Excessive Absorption of the Rays of the Sun and Other Sources of Light.

7. Pigmentation of the Skin—its Normal and Pathological Conditions.

VI. Radiology.

1. The Therapeutic Uses of Cathode Rays.

2. Teleradiotherapy in the Treatment of Diseases of the Blood and Radio-sensitive Tumours.

3. The Use of X-rays and Radium in the Treatment of the Rheumatic Diseases of Joints.

4. The Action of X-rays and Sources of Radioactivity on the Reticulo-Endothelial System.

VII. The Teaching and Organisation of Physical Medicine in Medical Schools and Universities.

All members are invited to join in the discussion of these subjects. Any member who wishes to submit a paper for discussion should send this typewritten in either English, French, German or Italian to the Honorary Secretary, Dr. Albert Eidinow, 4, Upper Wimpole Street, London, W.1. Papers will only be accepted according to the published rules of the Sixth International Congress of Physical Medicine.

SECOND INTERNATIONAL CONGRESS FOR MICRO-BIOLOGY

The Congress will be officially opened in London on the 25th July, 1936, and will hold its session till the 1st August, 1936. This will be followed by official receptions by His Majesty's Government, by the Royal Society and other societies. Excursions and visits to important institutes and laboratories have been arranged.

Already 20 workers belonging to the Medical, Veterinary and Biological Sciences have signified their desire to take part in the Congress. Prospective members are requested to communicate, without delay, either with Dr. A. C. Ukil, Secretary, Indian Committee of the International Society for Microbiology, All-India Institute of Hygiene and Public Health, 21, Chittaranjan Avenue, Calcutta or directly with Dr. R. St. John-Brooks, Honorary General Secretary, Second International Congress for Microbiology, Lister Institute, Chelsea Bridge Road, London, S.W.1, England for a copy of the Registration Form and the Programme and to forward the membership fee of £1 sterling to Dr. J. T. Duncan, Treasurer, Second International Congress for Microbiology, London School of Hygiene and Tropical Medicine, Keppel Street, London, W.C.I. Members should also intimate the Honorary General Secretary in London whether they would be accompanied by ladies.

The headquarters of the Congress will be located at the University College, Gower Street, London, W.C.1., where the scientific meetings will also be held. Messrs. Thos. Cook & Sons, Ltd., of Berkeley Street, London, W.1., the American Express Co. Inc. of 6, Haymarket, London, S.W.1. and Dean and Dawson Ltd. of 7, Blandford Square, London, N.W.1., have been appointed official Travel Agents of the Congress. Information as to special travel facilities, hotels in London, etc., may be obtained on application to these firms in London or at any one of their respective branches or agencies in Great Britain or abroad.

In accordance with the Statutes of the Society communications may be made to the Congress in English, French or German. The Honorary General Secretary will be glad to hear from any prospective member who desires to take part in the general discussion on any of the prescribed subjects. All openers of discussions and subsequent contributors are to forward to the Honorary General Secretary, Dr. R. St. John-Brookes, abstracts of their statements for incorporation in a special brochure available at the opening of the Congress. These abstracts are strictly limited to 600 words in case of openers and to 300 words in case of subsequent contributors. Openers will be limited to 20 minutes, invited contributors to 15 minutes and speakers in the general discussions to 10 minutes, at the President's discretion. It is hoped that interested workers of the Medical, Veterinary and Biological sciences will take

advantage of this opportunity for making personal contacts between experts assembling from all over the world.

PROVISIONAL PROGRAMME

PRESIDENTS OF HONOUR:

Past President Professor Jules Bordet (Brussels), Sir John McFadyean (London), Sir Robert Muir (Glasgow), Professor Geo. H. F. Nuttall (Cambridge).

PRESIDENT:

Professor J. C. G. Ledingham, Lister Institute, London, S.W.1.

PRESIDENTS OF SECTIONS:

1. General Biology of Micro-organisms—Prof. E. Gotschlich (Heidelberg).
2. Viruses and Virus diseases in plants and animals —Prof. R. Doerr (Basal).
3. Bacteria and fungi in relation to disease in man, animals and plants—Dr. E. J. Butler (London) and Prof. H. Zinnser (Boston).
4. Economic Bacteriology (Soil, Dairying and Industrial)—Prof. R. E. Buchanan (Iowa).
5. Medical, Veterinary and Agricultural Zoology and Parasitology—Prof. E. Brumpt (Paris).
6. Serology and Immuno-chemistry—Prof. K. Landsteiner (New York).
7. Microbiological Chemistry—Prof. A. Harden (London).
8. Specific immunisation in the control of human and animal diseases—Prof. W. H. Park (New York).

* * * *

The following is a list of the subjects for discussion in the different sections:—

Section 1. General Biology of Micro-organisms.

Subjects for Discussion.

Selective bacteriostasis. Inhibitory action on the growth of bacteria and fungi of (1) Substances of known constitution and (2) Products of the growth of micro-organisms. Importance in the preparation of selective culture media.

Nutritional factors associated with the growth of micro-organisms. (Joint with Section 7).

Preservation of cultures of micro-organisms. Latency. Methods. Methods of preservation of delicate organisms. Preservation of virulence and antigenic structure. Changes in the character of bacteria in culture media unfavourable for rapid growth.

Life cycles of bacteria. Symbiotic association. Filaterable forms.

Anærobic bacterial metabolism. (Joint with Section 7).

Bacterial photosynthesis. (Joint with Section 7).

Variation. Relation of changes in morphological and cultural characters to changes in chemical composition and to alterations in antigenic structure, toxin prodoction and pathogenicity. (Joint with Sections 3 and 6).

Section 2. Viruses and Virus Diseases in Animals and Plants

Subjects for Discussion.

The general characteristics of viruses, including bacteriophage. Modes of transmission and paths of infection in virus diseases.

Evidence concerning the agency of viruses in the ætiology of new growths.

Mechanism of immunity in virus diseases and practical applications thereof.

Section 3. Bacteria and Fungi in relation to Man, Animals and Plants

Subjects for Discussion.

The significance of serological and cultural types of bacteria and fungi pathogenic to man, animals and plants in relation to epidemic, epizootic and epiphytic outbreaks of disease.

Pathogenic streptococci. Relation to scarlatina, puerperal fever, erysipelas, tonsillitis, acute rheumatism and infective endocarditis in man, and to mastitis, lymphangitis and suppurative condition in animals.

Mycoses in man, animals and plants. Taxonomy. Mechanism of pathogenic action. Relation to saprophytic species and conditions of saprophytic growth.

Bacteria causing acute inflammations of the alimentary tract and their mechanism of action. (Amœbic infections included).

Pathogenic anærobic bacteria.

Variation. Relation of changes in morphological and cultural characters to changes in chemical composition and to alterations in antigenic structure, toxin production and pathogenicity. (Joint with Sections 1 and 6).

SECTIONS 4. ECONOMIC BACTERIOLOGY:—SOIL, DAIRYING AND INDUSTRIAL MICROBIOLOGY

Sub-section I. Dairy Microbiology.
Sub-section II. Industrial Microbiology.
Sub-section III. Soil Microbiology.

Subjects for Discussion.

(Sub-section 1). Significance and estimation of the numbers and types of bacteria in milk, including thermoduric and thermophilic organisms. The need for adopting uniform methods.

(Sub-section II). The microbiology of water supplies.

(Sub-section II). (a) The microbiology of perishable fresh foods, other than milk and milk products. (b) The microbiology of canned foods, other than milk and milk products.

(Sub-section III). The physiology of nitrogen fixing organisms and the biochemistry of nitrogen fixation.

(Sub-section I). Factors determining the behaviour of micro-organisms in milk and milk products.

(Sub-sections II and III). (a) The process of decomposition of plant remains in soil, manure and compost heaps. (b) The microbiology of ensilage production.

(Sub-section II). The destruction and protection of woods and cellulosic materials.

(Sub-section II). Problems of biochemical purification of sewage and of trade effluents.

(Sub-section II). Recent advances in fermentation industries.

(Sub-section III). Economic importance of the autotrophic bacteria.

(Whole Section—Sub-sections I, II and III). Yeast metabolism. (Joint with Section 7).

SECTION 5. MEDICAL, VETERINARY AND AGRICULTURAL ZOOLOGY AND PARASITOLOGY.

Subjects for Discussion.

Resistance of animal parasites to conditions external to the host.

Factors which influence the transmission of infections by arthropod vectors.

Typhus fever and the Rickettsias.

The biology of the malarial parasites of man and animals.

Coccidia in relation to domesticated animals.

Subjects for Discourses.

Chemotherapy—mechanism of drug action and drug resistance.

The parasitic nematodes of plants.

Immunity against animal parasites.

SECTION 6. SEROLOGY AND IMMUNO-CHEMISTRY

Subjects for Discussion.

The structure of natural and synthetic antigens. (Joint with Section 7).

Immunity reactions in relation to antigenic structure and variation in bacteria.

Principles and methods for the quantitative determination of antigens and antibodies, including their diagnostic application.

Blood groups and organ specificity.

The significance of allergy in disease.

Variation. Relation of changes in morphological and cultural characters to changes in chemical composition and to alterations in antigenic structure, toxin production and pathogenicity. (Joint with Sections 1 and 3).

SECTION 7. MICROBIOLOGICAL CHEMISTRY

Subjects for Discussion.

The structure of natural and synthetic antigens. (Joint with Section 6).

Nutritional factors associated with the growth of micro-organisms. (Joint with Section 1).

Metabolic products of the lower fungi.

Intermediate carbohydrate metabolism of micro-organisms.

Influence of substrate on the chemical potentialities of the cell.

Anærobic bacterial metabolism. (Joint with Section 1).

Bacterial photosynthesis. (Joint with Section 1).

Yeast metabolism. (Joint with Section 4).

SECTION 8. SPECIFIC IMMUNISATION IN THE CONTROL OF HUMAN AND ANIMAL DISEASE.

Subjects for Discussion.

The control of diphtheria and whooping cough by means of specific immunising reagents.

The prophylaxis and serum treatment of human and animal diseases caused by anærobic bacteria.

The prophylaxis and serum treatment of pneumonia.

The relative value of antitoxic and antibacterial immunity in the prophylaxis and treatment of human and animal diseases in which the invasion by the causative bacterium may occur in a focal or generalised form.

MEDICAL NOTES AND NEWS

LEAGUE COMMITTEE ON NUTRITION PROBLEMS

A new League Body, the Mixed Committe on the problem of Nutrition, of which Lord Astor is the Chairman, met at Geneva on February 10 to begin its examination of the interrelated aspects of the problems of nutrition and public health, a matter to which public attention is being increasingly directed. The appointment of the Committee is the outcome of discussions in the Assembly, in which the Australian Government drew the attention to the co-existence of malnutrition and of surplus production of foodstuffs in the world to-day and urged the social, economic and hygienic importance of co-operation between those endeavouring to solve each of these problems.

Special interest was aroused by the report on nutrition published by the Health Organization of the League. But in view of the inter-dependence of the multiple aspects of the problem—social, medical and welfare, economic, agricultural, administrative, financial—it was regarded as desirable that it should be further studied by a mixed committee including agricultural, economic and health experts. The desire was also expressed that the Committee should collaborate with other international organizations and particularly with the International Labour Office and the International Institute of Agriculture in Rome. The Assembly accordingly resolved to appoint a Committee instructed to submit a general report on the whole question in its health and economic aspects to the next Assembly.

The nineteenth session of the International Labour Conference in June, 1935, adopted a resolution requesting the Governing Body to give directions for a comprehensive examination of the problem on a somewhat similar basis for presentation to the 1936 session of the Conference. These two enquiries will thus be inter-connected and will, to some extent, run concurrently.

At the opening meeting Lord Astor Chairman, stressed the vastness and complexity of the task before the Committee and the need for prudence as well as for zeal. Accurate and authoritative information on the amount and kinds of food necessary for adequate nutrition would be something new and might have a profound influence on the policy of Governments and the attitude of public opinion. If the needs indicated in the Committee's findings were met by Governments, the result might be a considerable step forward toward the solution of the agricultural crisis, a rise in popular well-being and an improvement in the relations between the nations.—*A. P. I.*

GOVERNMENT HOLDINGS OF QUININE

"The market price of quinine probably depends upon those who control 90 per cent. of the production of the drug," said Girja Shankar Bajpai in the course of reply to a question in the Assembly.

He added: "India is not a member of any combine. The average cost of production of quinine for the Government of India excluding overhead charges for direction and rent, is estimated at about Rs. 15 per pound. The sale price of Government quinine is Rs. 18 per pound. The current market price is about Rs. 23 per pound."

Dr. Rajan asked: "Is India self-contained in the matter of its quinine requirements?"

Sir Girja Shankar: No. It is calculated that if a year's output of Burma bark were converted into quinine sulphate by itself the yield would be 3,000 lbs. of quinine sulphate approximately. In the event of the separation of Burma from India, the Government of India will have no source of supply of raw material left but Bengal and, to a less extent, Madras. Under the new constitution the production, supply and distribution of quinine will rest entirely with local Governments.—*A. P. I.*

NEW SCHEME OF MEDICAL EDUCATION IN BIHAR

In pursuance of the recommendations of the Medical Council of India on professional education and professional examination, the Faculty of Medicine of the Patna University have proposed certain modifications in the distribution of subjects for the M.B., B.S., examination at the various stages and the limit time of the annual and supple-

mentary examinations and the time of passing the final examination. It has also been proposed to revise the medical curriculum in the light of new changes.

The total period of six years will be divided into three divisions. The first period of one year will be confined to pre-medical subjects, such as Biology (Botany and Zoology) and Organic Chemistry, the second period of two years to pre-clinical subjects such as Anatomy, Physiology, Materia Medica, Pharmacy and Pharmacology and the third period of three years to clinical studies of Pathology, Medicine, Therapeutics, Surgery, Midwifery and Gynæcology, Ophthalmology and Ear, Nose and Throat, Hygiene and Public Health and Forensic Medicine and Toxicology.

The last and the final period will be divided for the sake of convenience into two parts:—(1) Pathology, Hygiene and Public Health and Medical Jurisprudence and Toxicology and (2) Medicine, Therapeutics (and Clinical pathology), Surgery, Ophtholmology, Ear, Nose and Throat and Midwifery and Gynæocology.

A Sub-Committee consisting of Lt.-Col. P. S. Mills, Lt.-Col. G. H. Mahony, Captain P. B. Mukherji and Dr. T. N. Banerjee has been appointed to draft changes in the Regulations accordingly.

PATNA UNIVERSITY SENATE

At the annual meeting of the Patna University Senate Messrs. P. K. Parija and A. T. Mukherjee were elected to the Faculty of Medicine.

Principal L. D. Coueslant defeating Lt.-Col. Mahony was elected to the Combined Faculty of Engineering and Medicine of the Syndicate. Captain P. B. Mukherji withdrew at the very start.

SIKH DIET AND WHAT POOR PEOPLE IN ENGLAND LIVE ON

An experiment in which he compared the diet of the Sikhs, who are famous for their fine physique, with the food commonly eaten by the poorer classes in England was described recently by Major-General Sir Robert McCarrison, in the first of the Cantor Lectures before the Royal Society of Arts. Sir Robert's subject was "Food, Nutrition and Health."

He said that nowhere in the world was the profound effect of food on physical efficiency more strikingly exemplified than in India, where the physique of the Northern races of India was strikingly superior to that of the Southern, Eastern and Western races. "This difference depends almost entirely on the gradually diminishing value of the food, from the North to the East, South and West of India, with respect to the amount and quality of its proteins, the quality of the cereal grains forming the staple article of the diet, the quality and quantity of the fats, the mineral and vitamin contents, and the balance of the food as a whole.

"In general, the races of Northern India are wheat-eaters, though they make use also of certain other whole cereal grains. Now the biological value of the proteins of whole wheat is relatively high; and the wheat is eaten whole, after being freshly ground into a coarse flour (atta) and made into cakes called chapattis. The second most important ingredient of their diet is milk, and the products of milk (clarified butter or ghee, curds, buttermilk); the third is dhal (pulse); the fourth, vegetables and fruit. In conformity with the constitution of their dietaries they are the finest races of India, so far as physique is concerned, and amongst the finest races of mankind."

Describing his experiments, Sir Robert said that two identical groups of rats, twenty in each, were housed in colonies; both in large cages. One group was fed on a stock diet which included chapattis, pulse, and vegetables, and the other on a diet, such as is commonly used by the poorer classes in England. "The latter diet consisted of white bread margarine, over-sweetened tea with a little milk (of which the rats consumed large quantities), boiled cabbage and boiled potato, tinned meat and tinned jam of the cheaper sorts. It has many faults, of which vitamin and mineral deficiencies are the chief.

"The first thing one noticed, as this experiment progressed, was that the members of the former and well-fed group lived happily together. They increased in weight and flourished. One died from accidental causes; two others died from pneumonia (the experiment precluded the provision of the usual straw for bedding since rats are apt to nibble it, the nights were cold, and always when a large number of rats are kept in the same cage there are some that do not get their fair share of milk; these facts are probably sufficient to account for the occurrence of pneumonia in two cases). The other group did not increase in weight; their growth was stunted; they were badly proportioned; their coats were staring and lacking in gloss; they were nervous and apt to bite

the attendants; they lived unhappily together, and by the sixtieth day of the experiment they began to kill and eat the weaker ones amongst them. When they had disposed of three in this way I was compelled to segregate the remainder. The experiment was continued for 190 days, or for a period which would correspond to about sixteen years is man.

" The survivors in both groups were then killed and subjected to careful post-mortem examination. Polyneuritis, a sure indication of deficiency of vitamin B in the diet did not occur in the group fed on the Sikh diet, while two cases occurred in the group fed on the poorer class Britisher's diet. Disease of the lungs was twice as common in the latter group; gastro-intestinal disease was very frequent in this group, while that receiving the Sikh diet was free from it. Indeed, the animals fed on the poorer class Britisher's diet fared little or no better than those, in another experiment, that were fed on a diet in common use in Madras, and the maladies from which they suffered were much the same.

" The results of this experiment indicated clearly that a diet, such as is commonly used by the poorer classes in England gives rise in rats to two chief classes of ailments—pulmonary and gastro-intestinal; while a more perfectly constituted diet such as is commonly used by Northern Indian races affords a considerable measure of protection against both. It is not unreasonable, therefore, to expect that, other things being equal, similar results will arise in man from the use of these diets. We do, in fact, find that these two classes of ailments are amongst the most frequent of the maladies afflicting the poorer class Britisher as well as the poorer-class Madrassi."

DR. RAMA RAO'S DRAFT BILL FOR MADRAS COLLEGE

Dr. U. Rama Rao, President of the Indian Medical Association, has prepared a draft Bill for the establishment of a College of Physicians and Surgeons in Madras.

The Bill will probably be introduced in the local Legislature. Dr. Rao intends to remove " existing anomalies in the medical profession," according to his statement of objects and reasons, particularly as affecting licensed medical practitioners.

It is hoped that the proposed College would eventually obtain a Royal Charter like " sister institutions'" in the United Kingdom.—*Statesman.*

MODERN MEDICAL SCIENCE LINKED TO AYURVEDA

Speaking to Madras Rotarians, Lt.-Col. V. Mahadevan, I.M.S., said that he had reliable grounds for the statement that the Greeks and Arabs had their earliest knowledge of medicine from ancient India.

" Hippocrates," he added, " is the accepted father of modern scientific medicines and the inference is, therefore, irresistible that the ancient Indian system of medicine has, through the Greeks, contributed substantially to the modern scientific system.

" Indeed, if we believe as I presume we all must in the continuity of human knowledge and a steady unbroken growth of science though interrupted in time, throughout the ages one feels justified in saying that the modern system of medicine is the lineal descendant of that which once reached its eminence in ancient India, was modified, developed, and made to progress in the hands of the Greeks, and subsequently has, after 2,000 years of evolution, reached its present scientific development.

" If all people would only grasp this fact clearly the cry for fostering and developing Ayurveda will very soon be abandoned. I do not by this mean that Ayurveda should be ignored or even relegated to the background. But I do mean to say that it is but the earliest stage of modern medicine in which there is vast room for research, but not one to be regarded as something entirely different from modern medical knowledge.

" When once the true perspective of the situation is grasped, it is easy to realise that the man who has passed a qualifying examination in the modern scientific system of medicine becomes thereby all the better qualified to be a research worker in Ayurveda."—*Statesman.*

ANOTHER PROPOSED TUBERCULOSIS HOSPITAL IN BENGAL

A conference to consider the question of establishing a tuberculosis hospital within the jurisdiction of Baidyabati Municipality, was held in the room of the Hon. Sir Bijoy Prasad Singh Roy at Writers' Buildings, Calcutta.

The people of Baidyabati objected to the establishment of the hospital within the municipal area on the ground that it might help in spreading infection in the locality.

Expert opinion being different and in view of several concessions being agreed to by the donors of the hospital, Sir B. P. Singh Roy requested the representatives of the ratepayers of the Municipality to withdraw their objection and to agree to the establishment of the hospital, which, he said, would be to the benefit of the poor.

It may be recalled that the only Tuberculosis Hospital existing in Bengal is at Jadabpur (24-Pergs.) in the vicinity of South Calcutta.

The conference was attended by Major-General D. P. Goil, I.M.S., Surgeon-General with the Government of Bengal, Sir Nilratan Sircar, Major Drummond, I.M.S., Civil Surgeon, Hooghly, Rai Bahadur S. P. Ghosh, District Magistrate of Hooghly, Dr. Khambata, Director of Public Health, Mr. S. B. Hatch-Barnwell, I.C.S., Sub-Divisional Officer of Serampore, Dr. A. C. Ukil, a number of leading Marwaris, who are endowing the proposed hospital, representatives of the ratepayers of the Baidyabati Municipality and the Chairman of the Municipality.

REPORT OF THE CHEMICAL EXAMINER TO THE GOVERNMENT OF BENGAL

The 1934 Report of the Chemical Examiner to the Government of Bengal states that approximately eight thousand articles were examined during the year, of which over four thousand and a half were from Bengal and over three thousand from the rest of India. Numerous references on chemical and medico-legal matters were also answered.

In the General Analytical Department (including excise) nearly 1,500 articles were examined. In the excise cases all the samples of confiscated cocaine were assayed to determine their fitness for medical use. In most of the cocaine cases novocaine was found either mixed with cocaine or as pure novocaine showing that as novocaine is an exempted drug it is fully used not only as a substitute but also as an adulterant of cocaine.

Investigations were also made as to the fluorescent properties of drugs under ultra-violet rays to find out whether by a characteristic fluorescence a particular drug may be identified or not.

In the medico-legal section 2,365 cases were referred to the Chemical Examiner for examination. This number included 1,155 cases of human poisoning and 113 of animal poisoning. As usual the commonest poison detected in fatal human poisoning cases was opium, found in 47·69 per cent. of the detected cases. The other poisons in order of frequency were arsenic, alcohol, aconite, oleander, hydrocyanic acid and its salts and atropine.

Arsenic was the poison most frequently used in the animal poisoning cases; it was found in 60 out of 61 detected cases, the poison used in the remaining one case being aconite. In 87 articles suspected to be cattle poison and sent for examination, poison was detected in 64.

NOBEL PRIZE IN MEDICINE

The Nobel Prize in Medicine for 1935 was awarded to Prof. Hans Spemann, ordinarius in Zoology at the University of Freiburg-im-Breisgau, in recognition of his work on what is called the organ-producing effect. By this effect is meant, for example, the action that a dissected portion of the upper lip of the primitive orifice of the larva of the water newt exerts on cells in its vicinity when it is transplanted to another portion of the body. Apparently these cells obtain, through the action of the implant, new quality, which permits them to act as the anlage or embryonic cells of the organ that would have developed at the spot from which the transplant was cut. That is to say, there develops from these cells a primitive nervous system, an embryonic medullary tube, or perhaps the anlage for the spinal cord and brain. The physical-chemical nature of this organ-producing substance is not yet established. Spemann assumed at first that the living quality of the transplant was an essential factor in its effect. He discovered, however, that the effect is produced also by a dead explant and that under certain circumstances the tissue of the explant may be replaced by other substances. These experiments would seem to constitute the beginning of knowledge of the causes of organ development from definite portions of the embryo. They are of great biological significance.

The Nobel Prize winner, Spemann, who is now 66 years of age was formerly a zoologist at the University of Rostock. In 1914 he was appointed assistant director of the Kaiser Wilhelm Institut fur Biologie in Berlin-Dahlem, and since 1919 he has occupied the chair of Zoology at the University of Freiburg-im-Breisgau. He is also the editor of the Archiv fur Entwicklungsmechanik.—*J. A..M. A.*, December 14, 1935. (Ref. *Medical World*, February 28, 1936).

ASSOCIATION NOTES

CENTRAL COUNCIL

Proceedings of the XXXVI *Meeting held at Delhi on 17th February,* 1936.

Members present—Dr. M. A. Ansari, Dr. J. N. Bose, Capt. P. B. Mukerji, Dr. R. N. Bose (Meerut), Dr. S. N. Banerji (Meerut), Dr. H. N. Shivapuri (Jhansi), Dr. S. C. Sen (Delhi), Dr. C. Solomon (Delhi) and Dr. K. S. Ray.

Dr. M. A. Ansari was voted to the chair.

Before commencement of the business of the meeting the following resolutions moved from the chair were adopted, all members standing:—

(a) The Indian Medical Association puts on record its deep sense of sorrow at the demise of His Most Gracious Majesty King George V and offers its heart-felt condolences to the Royal Family.

(b) The Central Council of the Indian Medical Association record their deep sense of sorrow at the sudden death of Col. Bhola Nauth, the past President of the Indian Medical Association, at a time when his services were absolutely indispensable to the Indian Medical Association and also to the medical profession in India and convey their heart-felt sympathy to the members of the bereaved family.

(c) This meeting also records its deep sense of sorrow at the sudden death of Dr. N. N. Basu, a member of the Central Council and offers its heart-felt sympathy to the members of the bereaved family.

1. Proceedings of the last meeting were read and confirmed.

2. Accounts for the months of December and January were recorded. In this connection the Secretary placed a statement of expenses incurred (Rs. 174-11-6) in connection with the social given to the members of the Indian Research Workers' Conference on the 5th December, 1935, at the Association Hall, which was sanctioned. The statement of accounts submitted by late Col. Bhola Nauth in connection with his tour expenses in South India viz. Rs. 704-2-10 was also passed. The Secretary placed before the meeting the correspondence passed between the Secretary of the XII All-India Medical Conference, Nagpur, and Dr. T. S. Tirumurti with regard to the cost of printing 600 copies of " Popular Lecture on the Present State of Public Health in India " delivered by the latter at the Nagpur Conference. The Central Council is of opinion that there was no need for this lecture being printed. As, however, this has been done, to avoid unpleasantness the Central Council has decided to pass the account. It must be, however, definitely understood that this is not to be treated as a precedent and in future no such expenses will be allowed unless previously sanctioned by the Conference.

3. Resolved that the formation of the new branches at Madras and Sholapur, and the affiliation of the Tinnevelly District Medical Association, Trichinopoly District Medical Association and Vizianagram Medical Association be recorded.

4. The Secretary reported the steps taken by him in regard to the resolutions passed at the Nagpur Conference. These have been circulated to the various branches who have been asked to take necessary action.

5. The following resolutions of which notice was given at the last Nagpur Conference, but received late and which were referred to the Central Council by the Conference were discussed and unanimously passed. It was further resolved that branches be requested to take necessary action and give them wide publicity in every possible way and agitate in the matter:—

(a) With a view to effect economy in the medical administration of the country by the eventual replacement of paid officers by honorary workers, this Conference recommends that the system of appointing honorary physicians and surgeons in all provincial and district headquarter hospitals be extended to those provinces where it has not yet been introduced.

(b) This Conference recommends that the system of subsidised rural dispensaries which has been introduced by the Madras Government and which has been working satisfactorily in that province, be extended to other provinces. In furtherance of this object, the Conference invites the Indian Medical Association to lend its co-operation to local and other authorities in the successful working of the scheme.

(c) With regard to the resolution for allowing an affiliated body to send one representative to the Central Council on payment of Rs. 30/- as affiliation fee, the Central Council regrets that the representation made could not be accepted as an affiliated body really enjoys the privilege of one member only.

6. With regard to the appointment of a whole-time clerk, the Secretary reported that advertisements were issued in the " Statesman " and the " Amrita Bazar Patrika " and action was being taken by him for the appointment of a suitable candidate.

7. Resolved that Dr. H. N. Ray be appointed as an additional member to the Central Council at the headquarters in place of Dr. N. N. Basu (deceased).

8. In regard to the appointment of some standing committees as suggested by the Bombay Branch, it was resolved that the Bombay Branch be requested to give their concrete suggestion in the matter for consideration by the Central Council at its next meeting.

9. Some draft rules for the procedure of submitting resolutions to the Annual All-India Medical Conference and the Annual General Meeting of the Association were discussed. Resolved that these draft rules be circulated to the branches for their suggestions and that the same be placed for consideration at the next meeting of the Council.

10. The following amendments to Rules 7 (b), 9 and 18 suggested by the U. P. Branch were considered. The Central Council is of opinion that the amendments suggested are desirable, and resolved that they be circulated to the branches for opinion and then placed for consideration at a subsequent meeting of the Central Council:—

In Rule 7 (b) after the words " denominations fixed by the branch " delete " But . . . . all its privileges " and add " But the branch shall remit an annual subscription of Rs. 3/- per head with the application of every member or half-yearly subscription @ Re. 1/8/- per member, if they join the branch in the second half of the Association year, *i.e.* after 31st March, to the Central Council direct or through the Provincial Office where a Provincial branch exists. The branch shall pay Rs. 3/- per head for every member in subsequent years.

Every member of a branch shall be entitled to all the privileges of a member of Indian Medical Association.

Rule 9. Add at the end: " The assets and properties of the Indian Medical Association and its branch shall be quite separate and neither of them is liable for the debts and liabilities of the other."

Rule 18 should be deleted and replaced by—

Any member of the Indian Medical Association may transfer his membership from one branch to another upon changing his/her permanent place of residence by paying the subscription according to the denomination fixed by the branch newly joined by him or her and conforming to its rules. The branch now joined by him or her will not pay the I. M. A. subscription for the period for which the former branch has already paid.

The fact of the transfer must be notified to the branch of which he was formerly a member and also to the Central Office through the Provincial Office, if there is one in the Province otherwise to the Central Office direct.

11. The question of making a representation to the Income Tax Enquiry Committee was then considered and it was resolved to submit a representation of behalf of the Indian Medical Association to the Income Tax Enquiry Committee at Calcutta, if there was still time for submitting such representation.

12. Read a letter dated the 15th February, 1936, from Dr. M. R. Samey (Bangalore). The Council records with satisfaction the reasonable attitude taken up by Dr. Samey mentioned in his letter under reference.

K. S. RAY,
Jt. Hony. Secretary,
Indian Medical Association.

67, Dharmatala Street,
Calcutta,
The 28th February, 1936.

DRAFT RULES

Annual General Meeting.

1. At the Annual Meeting of the Indian Medical Association the business shall be taken in the following order:—

(a) The election, if necessary, of the Chairman.

(b) Other elections.

(c) Any motion for a change in the order of business.

(d) Resolutions brought forward by the Central Council.

(e) Resolutions forwarded by Provincial branches.

(f) Resolutions forwarded by members of the Association.

2. All resolutions to be placed before the Annual General Meeting of the Association shall be considered by the Central Council at its meeting just preceding the Annual Meeting.

3. Resolutions sponsored by individual members shall ordinarily be submitted through branches on whose rolls their names are borne; and in provinces where a provincial branch exists they should come through such branches.

4. Notice of resolutions to be moved at the Annual General Meeting shall reach the Secretary not less than 45 clear days before the date fixed for the meeting.

5. The Secretary shall, not less than 30 days before the date of the meeting, issue with the notice of the Annual General Meeting a preliminary Agenda Paper showing the business to be brought before the meeting, the terms of motions to be moved of which notice in writing has previously reached and the names of the movers.

6. A member who wishes to move an amendment to any item included in the Agenda Paper shall notice thereof to the Secretary not less than 15 clear days before the date fixed for the meeting.

7. The Secretary shall make available to all members attending the meeting a list of all amendments of which notice has been given under Rule (6).

8. A notice of motion or amendment shall be invalid unless accompanied by a copy of such motion or amendment.

Annual Conference.

1. At the All-India Medical Conference the business shall be taken in the following order:—

(a) Address by the President of the Reception Committee.

(b) Election of President of the Conference.

(c) Address by the President of the Conference.

(d) Election of Subjects Committee and other elections.

(e) Any motion for a change in the order of business.

(f) Resolutions brought forward by the Subjects Committee.

(g) Resolutions submitted by the Reception Committee.

(h) Other business.

2. All resolutions to be placed before the open session of the Conference shall be considered and approved by the Subjects Committee at a meeting to be held before the open session commences.

3. Notice of all resolutions to be moved at the Conference shall reach the Secretary of the Conference not less than 20 clear days before the date fixed for the meeting. A notice of a resolution shall be invalid if not accompanied by a copy of such resolution.

4. The Secretary of the Conference shall make available to all delegates attending the Conference a list of all resolutions to be placed before the Conference as approved by the Subjects Committee.

PUNJAB BRANCH

GENERAL REVIEW FOR THE YEAR 1935.

Membership

The total number of members during the year was 247, detail of which is as below:—

Lahore (10 members enlisted during last month)	120
Amritsar	48
Lyallpur	15
Gujranwala	5
Jullundur	12
Sialkot	23
Ludhiana	11
Multan	3
Ferozepore	10
Total	247

The above data if compared with the previous years' figures will show a considerable increase at every branch except a few.

Activities

On the whole during the year at end, the clinical and social meetings were held at all our branches more frequently than before and regular annual functions are becoming a part of the usual programme.

Further we are glad to submit that on the initiative of the Lahore Branch, all other branches did whatever was possible to afford medical relief to sufferers of the Quetta earthquake, and special arrangements were made by the Indian Medical Association at Lahore and Amritsar to receive and accommodate the refugees for their treatment.

During the course of the year, Dr. S. N. Kaul, the Provincial President and Dr. Bhagat Ram Khanna, the Secretary, have so far visited six branches out of the eight, and had the opportunity of meeting their members at their own centres. They were quite satisfied with the interest shown in the work by the office-bearers of the branches visited.

Our Provincial Annual Meeting for the year 1935 was held at Ludhiana in March last and a report in connection therewith was submitted to the Central Office at that time.

On the whole, the year under review was full of activities and good work, and the members have begun to evince more interest in the medical politics of the country.

THE TINNEVELLY DISTRICT MEDICAL ASSOCIATION, PALAMCOTTAH

The Tinnevelly District Medical Association held its monthly meeting on Saturday, the 29th February, 1936, at Nanguneri. A Health Exhibition was arranged at the Board High School, Nanguneri, at 12 noon. The Exhibition was opened by Lieut.-Col. T. S. Shastry, I.M.S. The Exhibition was thrown open to the public till late in the evening. The exhibits consisted of posters relating to cholera, tuberculosis, malaria, small-pox, fly-danger, etc. About 300 school teachers and school mistresses of the Nanguneri Taluk attended the Health Exhibition which was held in the same place and along with the Educational Exhibition of the Teachers' Conference.

The monthly meeting of the Association began at 4-30 p.m. with tea at the Traveller's Bungalow under the presidentship of Lieut.-Col. T. S. Shastry, I.M.S

Resolutions regarding:—

(a) The late King George V.

(b) King Edward VIII.

(c) The late Colonel Bhola Nauth, C.I.E., I.M.S (Retired),

were passed unanimously.

The Secretary read the minutes of the las Annual Reunion which were passed.

The Draft Rules of the Tamil Nadu Medical Federation was also read by the Secretary for the information of the members.

The following clinical cases were demonstrated:—

Lieut.-Col. T. S. Shastry, I.M.S., District Medical Officer, Tinnevelly, demonstrated a case of "Cancer Breast" successfully operated and a case of fracture of the leg treated by him at the Government Headquarters Hospital, Palamcottah.

Dr. G. S. Narayana Iyer, L.M.P., Rural Medical Practitioner, Moolaikaraipatti, demonstrated a case of Leprosy.

Dr. G. S. Narayana Ayyar, L.M.P., read notes of a case of Leprosy which was treated by him. Dr. R. V. Padmanabhan, M.B.B.S., delivered an interesting and exhaustive lecture on "The Scheme of present day Treatment of Leprosy."

After discussion Lieut.-Col. T. S. Shastry, I.M.S., summed up the salient and important features of all the cases. He offered his cordial thanks to all those members who contributed to the success of the function.

A sumptuous dinner brought the happy gathering to a close.

JHANSI MEDICAL ASSOCIATION

The following resolutions moved from the chair were passed unanimously, all members standing, at a meeting of the Association, held on Friday, February 28, 1936.

1. "This Association is extremely sorry to learn the demise of His Late Majesty King George V., Emperor of India and expreses its sympathy and condolence with His Majesty King Edward VIII Queen Mary and other members of the Royal Family."

2. " This Association has learnt with regret the death of late Colonel Bhola Nauth, I.M.S. (Retd.), ex-President of the Indian Medical Association and expresses its condolence with members of his family. It gratefully remembers and appreciates the valuable services rendered by him to the cause of Medical Profession in India."

PATNA MEDICAL ASSOCIATION

Resolution passed at the annual general meeting of the Patna Medical Association held on the 7th February, 1936:

The Patna Medical Association places on record an expression of its deep sorrow on the death of Colonel Bhola Nauth, late President of the All-India Medical Association and conveys its heart-felt sympathy to the members of his family in their sad bereavement.

CALCUTTA BRANCH

A meeting of the Executive Committee of the Indian Medical Association, Calcutta Branch, was held on Friday, the 14th February, 1936, at 6-30 p.m. at the Association Hall. The following members were present:

Drs. C. C. Basu (in the chair), B. N. Bhaduri, D. N. Banerjee, P. C. Chakraborty, A. K. Sen, K. C. Chaudhuri, J. P. Chaudhuri, J. Dhar, K. K. Sen Gupta, N. K. Munshi, and T. N. Ghosh.

Read a letter dated 9th February, 1936, from Dr. J. N. Bose expressing his inability to attend the meeting.

The proceedings of the last meeting were read and confirmed.

1. A resolution expressing sorrow at the demise of Col. Bhola Nauth was passed unanimously, all the members standing.

2. The proposal of Dr. Bibek Sen Gupta for framing a rule by which all ex-Presidents of the Association may be ex-officio members of the Executive Committee, was discussed. Resolved that the Secretary be requested to put before the next meeting a summary of the discussion for further consideration of the matter.

3. Resolved that the matter be referred to the Bengal Provincial Branch for its decision.

4. The resignations of the following members were accepted:—

Drs. K. C. Banerji, D. P. Mitra, and B. B. Brahmachari.

Resolved that the names of the following members be deleted from the register:—

Drs. Jatindra Mohan Das and Kumud Ranjan Paul.

The consideration of resignation letters from the following members was postponed to a later date:—

Drs. K. Ahmad, Sailendra Nath Mitra, B. N. Ghosh and Mrs. H. Y. Remfry.

5. (a) Considered a letter dated 4th February, 1936, from the Secretary, Indian Radiological Association. It was resolved that the Secretary of the I. R. A. be intimated that this Association would gladly welcome the idea of the interesting films being exhibited to the members of this Association in a Clinical Meeting.

(b) The election of the following new members was recorded:—

Lt.-Col. P. C. Banerjee, Drs. A. C. Mitra, S. K. Sen, Sambhu Nath Mukherjee, Prashanta Kumar Ghosh, Shib Ch. Mukherjee, Bonbehari Guha, Ajay Krishna Acharya, Provat Ch. Sanyal, Nripendra Nath Banerjee, Bejoy Krishna Sarkar, and Aswini Kumar Sen Gupta.

(c) The consideration of regulating hours of business was postponed to a later date.

With a vote of thanks to the Chair, the meeting terminated.

FARIDPUR MEDICAL ASSOCIATION

Copy of resolution passed in an emergent meeting of the Faridpur Medical Association, held on 16th March, 1936, with Dr. P. L. Choudhury, L.M.S., in the chair.

Members present:—

Drs. P. L. Choudhury, S. R. Ghosh, S. Bhattacharjee, K. C. Roy, H. Ahmed, S. M. Sinha, J. J. Chatterjee, and S. K. Bose.

Resolved that this Association records its deep sense of loss at the death of the renowned obstetrician and gynæcologist of world-wide fame, Dr. Sir Kedar Nath Das, Kt., M.D., C.I.E., F.C.O.G., Principal of Carmichael Medical College, Dean of the Medical Faculty

(Bengal), Member of the Syndicate, Calcutta University. It also conveys its most sincere condolence to the members of the bereaved family.

DARJEELING DISTRICT BRANCH

Proceedings of the quarterly meeting of the Darjeeling Branch of I. M. A. held at the office room of the Victoria Hospital on Sunday, the 23rd February, 1936, at 3-30 p.m.

1. Dr. C. M. Jones read a paper on first-aid treatment of eye and it was resolved that the paper be sent to the Secretary, Bengal Branch, for publication.

2. It was resolved that the reply of the letter from King George's Tuberculosis Fund, be sent as follows:—

> "As it does not affect anybody at Darjeeling, we have no objection to alternative (C) of the letter as suggested by the Central Branch. Further it was resolved that the Association should suggest the King George's Fund for some donation towards the Municipal T. B. Hospital which is going to be in existence early this year (April, 1936). The letter to the King George's Fund for this object should run as follows:
>
> "As the local Municipality of Darjeeling proposes within the next financial year to start a hospital and clinic for Tuberculosis, we would be very grateful if some financial assistance could be afforded to supplement this object."

3. Resolved the date of next quarterly meeting be fixed on 17th March, 1936.

4. Dr. Yen Sing will read a paper on the next meeting day.

5. The meeting records sincere vote of thanks to Major Thomas, Civil Surgeon, for the interest he has taken on starting this Association.

With a vote of thanks to the Chair the meeting dispersed, when the members were shown a few interesting cases from the wards of the Victoria Hospital and the most interesting result of treatment of compound fractures with Acriflavine and Vaseline was much appreciated.

The meeting was attended by 17 members of the District.

DACCA BRANCH

Copy of some of the resolutions passed at a meeting of the Dacca Branch of the Indian Medical Association held on 7th March, 1936.

1. Proceedings of the last meeting read and confirmed.

2. Resolved that this meeting places on record its deep sense of sorrow and loss sustained by the Association at the sudden demise of Col. Bhola Nauth, late President of the Association.

Moved from the Chair, all standing in silence for ½ minute.

3. Resolved that Rai Bahadur Dr. K. P. Mitra, M.B., be elected a representative of this Branch to the Central Council of the Indian Medical Association.

4. Resolved that (1) Dr. S. C. Gupta, L.M.S., be elected a representative of this Branch in the Bengal Provincial Council.

(2) Dr. S. C. Roy, L.M.F., be elected a representative of this Branch to the Bengal Provincial Council.

5. Read a letter of the Secretary, Indian Medical Association, dated 28th February, 1936.

Resolved that the contents of minute No. 5 of the Central Council's meeting held at Delhi on 17th February, 1936, be noted and effect given accordingly.

Resolved further that regarding minute No. 10, this Branch is of opinion that the amendments as suggested by the United Provinces Branch be approved.

This branch is further of opinion that a certain percentage not exceeding 25 per cent. of the money contributed to the Central Fund be sanctioned to the Branch Associations for incidental expenditure, as many newly started branches might be otherwise financially handicapped.

MEDICAL ASSOCIATIONS, SOCIETIES, ETC.

Medical Associations, Societies, Unions, etc., are invited to make use of this section of the Journal.—EDITOR.

ALL-INDIA MEDICAL LICENTIATES' ASSOCIATION

The following resolution was passed by the All-India Medical Licentiates' Association (Madras Branch) on 12th February, 1936:—

"Madras Branch of the All-India Medical Licentiates' Association expresses its profound sorrow on the demise of Col. Bhola Nauth, I.M.S. (Retd.), President of the Indian Medical Association and conveys its condolence to the bereaved family."

THE TUTICORIN MEDICAL UNION

The following resolution was passed by the Tuticorin Medical Union, Tuticorin, at the meeting held on the 29th February, 1936.

"The Tuticorin Medical Union expresses sorrow at the death of Col. Bhola Nauth, C.I.E., I.M.S., President of the Indian Medical Association, and conveys its sincere condolence to the bereaved family."

THE BARODA MEDICAL UNION, BARODA

The members of the Baroda Medical Union express their heart-felt sorrow at the heavy affliction that has fallen upon the family of late Col. Bhola Nauth by his death.

May his soul rest in peace.

BOMBAY MEDICAL COUNCIL

The following are extracts from a summary of the proceedings of the meeting of the Bombay Medical Council held on 10th February, 1936:—

Before commencing the programme of business fixed for the meeting, the President moved the following resolution from the Chair:—

"That this meeting of members of the Bombay Medical Council assembled on 10th February, 1936, places on record its great sense of sorrow in the death of His Majesty King George V and tenders its respectful sympathy to His Majesty King Edward VIII and Her Majesty Queen Mary;

"That a copy of the above resolution be forwarded to His Excellency the Governor of Bombay."

The resolution was *carried*, all members standing.

The Council proceeded to consider the application from the Director, School of Tropical Medicine, Calcutta, for the recognition of the License in Tropical Medicine of the School for registration as an additional qualification under the Bombay Medical Act, 1912, and decided that the License be recognised for registration accordingly.

The Council proceeded to consider the papers received from Government, relating to the application of Mr. K. A. Nanavutty for permission to be registered under section 7 (3) of the Bombay Medical Act, 1912, and decided that the case be referred back to the Executive Committee for reconsideration in view of certain further information furnished by him since the matter was dealt with by the Committee on the last occasion.

The Council proceeded to consider further the application from the Director, Medical and Sanitation Department, H. E. H. the Nizam's Dominions, for the acceptance of the M.B.B.S. degree and the L.M. & S. diploma of the Osmania University, Hyderabad, Deccan, for registration under the Bombay Medical Act, 1912, and decided that Government be asked to add the two qualifications in question to paragraph 1 of the Schedule to the Act.

The Council proceeded to consider further the application of Mr. M. T. Ramchandani, M.B.B.S., for the restoration of his name to the Bombay Medical Register and resolved that his name be restored to the Register.

The Council proceeded to consider the application of Mr. N. K. Panse, L.C.P.S., for the restoration of his name to the Bombay Medical Register and resolved that his name be restored to the Register.

The Council proceeded to consider further the application of Mr. N. K. Panse, L.C.P.S., for the

restoration of his name to the Bombay Medical Register and resolved that some more time should elapse before Mr. Kasyapi's application is entertained.

The Council proceeded to consider the draft rules recommended by the Executive Committee in connection with the proposed Provident Fund for the staff of the Council and resolved that the rules, with a few amendments, be adopted and the necessary futher steps taken for the institution of the Fund.

The Council proceeded to consider the draft revised Code of Medical Ethics prepared by the Sub-Committee appointed by the Council for the purpose and proposed by the Executive Committee to be substituted for the existing "Warning Notice" and the "Code of Medical Ethics" and it was resolved that the draft revised code be referred back to the Executive Committee with a suggestion that it be published first in the *Government Gazette*, the Journals of Medical Associations, etc., with a view to obtain the views of registered medical practitioners.

The Council proceeded to consider a proposal suggesting the institution of legislative control over nursing homes, etc., and resolved that the attention of Government be drawn to the need for legislative control over nursing homes, the numbers of which are increasing in all large cities, and that it be recommended to Government that legislation for the registration and inspection of the same is desirable.

The Council decided to record the reply received from the Government of India, in connection with the suggestion received some time ago that the practice of medicine and dentistry in India be restricted to the Nationals of India, viz., that the Government of India do not consider that the situation created by the arrival of a few foreign doctors in this country calls for any action on their part.

The Council decided to record the reply received from the Government of Bombay, in connection with the amendments in the Bombay Medical Act proposed by the Council, viz., that the Governor in Council regrets that he is unable to approve of the proposed amendments.

The Council proceeded to consider the question of appointment of Visitors to visit the Professional Examinations in accordance with rule 110 of the Rules of the Council and decided that the Council need not appoint any Visitors during 1936, as some time should be allowed for dealing with the points raised by the Visitors appointed in 1934.

The Council proceeded to ballot for the election of an Executive Committee for the year and, in accordance with the result of the ballot, declared the following six members as duly elected:—

Dr. D. A. D'Monte.

Dr. Rajabally V. Patel.

Sir Mangaldas V. Mehta.

The Hon'ble Khan Bahadur Sir Nasarvanji Choksy.

Lieut.-Col. Sir Jamshedji N. Duggan.

Lieut.-Col. R. H. Candy, I.M.S.

The Council proceeded to consider the question forwarded by the Chairman, King George Thanksgiving (Anti-Tuberculosis) Fund, regarding the constitution of the Fund, more particularly the relations of that body with the Indian Red Cross Society, and decided that, in the opinion of the Council, out of the three alternatives mentioned, the alternative "To approach His Excellency the Viceroy with a recommendation that in future the Thanksgiving Fund be not a sub-committee of the Red Cross, but a separate body to be affiliated to the Red Cross in accordance with section 9 of Act XV of 1920, which constitutes the Indian Red Cross Society," is preferable.

The Council decided to record the reply received from the College of Physicians and Surgeons of Bombay, regarding the reports submitted by the Visitors appointed by the Council to visit Professional Examinations in 1934.

The Council proceeded to consider the question of selection of a representative of the Council, in accordance with a resolution of the Bombay Government, on the Committee appointed by Government to examine the problem of teaching at the Medical School in the Presidency, and selected Sir Mangaldas V. Mehta to work as their representative on the Committee.

The Council proceeded to consider the motion made by Mr. Amesur, in accordance with a notice given by him, suggesting that as "Government have declared it as their policy to help towards the gradual development of self-governing institutions in the provinces of India and to gradually reduce the external control so as to give them the largest measure of independence as is compatible with the due discharge of their duties, etc., etc., the Council request the Governor in Council to reconsider its decision and sanction the proposals (regarding the amendment of the Bombay Medical Act, 1922) forwarded by this

Council," but the motion was lost, the majority of the members voting against it.

BENGAL COUNCIL OF MEDICAL REGISTRATION

The following are the extracts from the Minutes of the meeting of the Bengal Council of Medical Registration held on the 22nd January, 1936:—

Before the proceedings commenced the President explained why the meeting appointed for the previous day had to be unavoidably postponed and regretted the inconvenience thus caused to the members. He then moved the following resolution from the Chair which was accepted by all members, standing in silence:—

" That the Bengal Council of Medical Registration beg to give expression to their profound sorrow at the demise of His Most Gracious Majesty King George V, Emperor of India, and to convey their heart-felt sympathy to the Members of the Royal Family in their great bereavement."

That a copy of the resolution be forwarded to the Private Secretary to His Excellency the Governor of Bengal for communication to the proper quarter.

The President also gave expression to the great loss suffered by the Council during the last six months by the death of Dr. Jatindranath Moitra, M.B., a member of the Council continuously from 1917 and Dr. Narendranath Basu, L.M.S., a member thereof for several years and moved that the condolences of the Council be communicated to the bereaved families.

Considered the following items arising out of the previous Minutes:—

Continuance of recognition of the Jackson Medical School, Jalpaiguri.

The Registrar placed before the meeting the copy of the Inspection Committee's report on their visit to the school on 1st December, 1935.

Dr. S. K. Mukherjee explained the report and moved for its adoption.

Dr. S. C. Sengupta seconded the motion which was carried.

Amendment of the Bengal Medical Act, 1914.

The Registrar reported that amendments in the Bengal Medical Act, 1914, proposed by the Council were submitted with letter No. 1373C dated the 9th October, 1934, to Government whose orders are awaited.

Resolved that Government orders be awaited.

Election and other rules under the Bengal Medical Act, 1914.

Two rules—

(i) for increase of the fee for registration of an additional qualification from Rs. 5/- to Rs. 25/-; and

(ii) for the levy of a fee of Rs. 10/- for change of name in the Register

are still under consideration by Government.

Resolved that Government orders be awaited.

Proposal for the extension of the Licentiateship course to five years.

The Registrar reported that the local Government were approached on the subject by a letter No. 352C, dated the 19th February, 1932, and they were last reminded on the 13th December, 1935.

Resolved that order of Government be awaited.

Representation of the Council and the Governing Body of the Faculty on the Bengal Sanitary Board.

Government have been asked (letter No. 135C dated the 17th January, 1936) as suggested by the Council at their last meeting to give separate representation to the Council and the Faculty in view of the difficulties experienced in making nominations at a joint meeting of the two bodies.

Resolved that Government orders be awaited.

Motion of Dr. A. D. Mukherjee, L.M.F., re: safeguarding the interest of registered medical practitioners from encroachment by unqualified practitioners.

The Registrar reported that the Council held a preliminary meeting on the 7th January, 1936. Final report not received as yet.

Resolved that Government orders be awaited.

Report of the Penal and Ethical Cases Committee, dated the 18th July, 1935. The outstanding items are—

(i) The case of Dr. Bipinbehari Gupta, L.M.S., D.P.H., regarding publication of advertisement in lay paper.

The Registrar reported that a notice as provided in the rules intimating that his case would be considered by the Council on the 21st January, 1936,

was issued to Dr. Bipinbihari Gupta on the 23rd December, 1935.

Charge of covering against Dr. U. P. Ghosh of Dacca.

The Registrar placed before the meeting letter, dated the 28th September, 1935, from Dr. U. P. Ghosh, L.M.S., intimating that he undertook that he would not follow the practice of 'covering' as required by the Council.

(i) The Registrar placed before the meeting a letter from Dr. Bipinbihari Gupta received on the date of the meeting expressing regret at the advertisements issued by him in ignorance of the rules and craving lenient action as he had already withdrawn the advertisements.

The Council decided to let him off with a warning against repetition of the action in future.

(ii) Ordered—To be recorded.

Motion of Dr. A. D. Mukherjee re: appointment of a Committee to inspect the examinations of the State Medical Faculty of Bengal.

The Registrar reported that the Advocate-General had been approached to advise on the question of the Council's power of inspection as set out by Dr. B. C. Roy, M.D., F.R.C.S., in the light of the opinion expressed by Mr. U. P. John regarding inspection of the M.B. examination of Calcutta University by the General Medical Council of the United Kingdom, a copy of which had been supplied by Dr. Roy.

Resolved that the opinion of the Advocate-General be awaited.

Read Resolution No. 3296 P.H., dated the 18th December, 1935, of the Government of Bengal, Local Self-Government Department, Medical Branch, announcing the appointment of Dr. Taraknath Majumdar, L.M.S., D.P.H., F.C.S., and Dr. Abdul Majid, M.B., D.T.M., D.P.H., representatives of the Bengal Council of Medical Registration and the Governing Body of the State Medical Faculty of Bengal, as members of the Bengal Sanitary Board.

Ordered—To be recorded.

Read letter No. 25534/7T-2-35 (11), dated the 1st October, 1935, the Surgeon-General with the Government of Bengal intimating that necessary steps are being taken for provision of separate teachers for teaching each subject in all Government medical schools.

Ordered—To be recorded.

The Council proceeded to appoint a Standing Committee to inspect medical schools with a member selected from those to be elected under Section 4 (h) in April next as such a member has invariably been on the Committee.

Resolved that the undermentioned gentlemen be appointed members of the Standing Committee to inspect medical schools:—

(1) Lt.-Col. T. C. Boyd, F.R.C.S., D.P.H., I.M.S.
(2) Dr. S. K. Mukherjee, D.O., D.O.M.S., F.R.C.S.
(3) Dr. K. S. Ray, M.B., Ch.B.
(4) Dr. Santiram Chatterjee, L.M.S.
(5) Dr. A. D. Mukherjee. L.M.F. (to continue in case he is returned to the Council at the next election under Section 4 (h).

The Council proceeded to appoint a Penal and Ethical Cases Committee to consider penal and ethical cases during 1936.

Resolved that the undermentioned gentlemen be appointed members of the Penal and Ethical Cases Committee for the year 1936:—

(a) Lt.-Col. T. C. Boyd, F.R.C.S., D.P.H., I.M.S., Convenor.
(b) Dr. B. C. Ray, M.D., M.R.C.P., F.R.C.S.
(c) Lt.-Col. Sir H. Suhrawardy, Kt., M.D., F.R.C.S., D.P.H., I.T.F.
(d) Dr. Panchanan Chatterjee, M.B., F.R.C.S.
(e) Rai Sahib Dr. P. C. Ray, L.M.P. (to continue in case he is returned to the Council at the next election under Section 4 (h).

Read a letter, dated the 25th November, 1935, from the Secretary, Journal of the Indian Medical Association, requesting that a copy of the election rules of the Council and copies of the proceedings of their meetings may be supplied for publication in the journal.

Resolved that in future abstracts of proceedings may be supplied.

The Registrar reported that on a complaint made by this office to Government a prosecution was instituted by the District Magistrate of Bogra against one Sriskamal Sengupta under section 29 of the Bengal Medical Act, 1914, and that the Deputy Magistrate of Bogra sentenced him to pay a fine of Rs. 250/- or in default to undergo simple imprisonment for six months.

Ordered—To be recorded.

Read an application, dated the 12th December, 1935, from Dr. Lalmohan Ghosh, M.B., praying that his D.T.M. (Liverpool) qualification be entered against his name in the Registered Medical Practitioners under section 21 of the Bengal Medical Act, 1914.

Resolved—That the request be complied with.

Read letter No. 4278, dated the 12th September, 1935, from Lt.-Col. A. D. Stewart, C.I.E., I.M.S., requesting the President to convey his thanks to the members of the Council for the resolution recorded by them on the occasion of his departure from India.

Ordered—To be recorded.

REPORT OF THE SONATHI (MUZAFFARPUR) CHARITABLE DISPENSARY

The following is the report of the Joint Committee for removal of flood-devastated village sites, Sonathi. This Committee is composed of the Commissioner, Teerhut Division, the Magistrate, Muzaffarpur being representatives for Viceroy's Relief Fund and Dr. Pierre Ceresob and Sj. Phanindra Mohan Dutt of Behar Central Relief Committee.

In the very beginning of the relief operations in February, 1934, the spread of an epidemic of small-pox brought us face to face with the health conditions of this area. The findings of our survey re-affirmed the necessity of taking immediate step into the matter. Thanks to the mediation of some Benares workers who could obtain the aid of a Vaidya from that city. The District Board was approached and inoculation was speedily started which greatly soothed the situation.

The Vaidya was persuaded to stay on but as time advanced it was felt that this emergency measure of medical assistance fell far short of a permanent increasing demand. The absence of a like institution within a radius of 9 miles of our centre and the difficulties of communications to far off place like Muzaffarpur, served to strengthen the need of a regular dispensary. But it was not earlier than August that we could procure the help of a qualified doctor and compounder. Under the Vedic system about 7000 persons were treated within a period of six months.

The dispensary was housed in one of the temporary sheds of our camp and with a stock of medicine we started it in present form on the 10th August, 1934. It would be rather immodest to say that this institution has since been gaining in popularity but it is open to us to state that the area and the range of treatment has been increasing day by day. It was computed that during the year 58058 persons had attended the dispensary from 169 villages. Every morning people throng by hundreds coming from far and near in spite of the difficulties of communications particularly in the flood season.

This difficulty has been sought to be minimised by the opening of one sub-centre at Barhetha 3 miles North. The necessity of paying special attention to certain serious cases has led to the opening of a ward where these are treated as indoor patient. Attempts have also been made to equip the dispensary better according to the funds at our disposal. This has enabled us to undertake some surgical work too. Of the forms of operations that have been taken up the majority have been ulcers, ascites, fractures and other forms of necrotic diseases. With the limited scope of our apparatus we have not found ourselves sufficiently safe to try very major operations and such cases could not be given more than a mere antiseptic treatment. Nevertheless serious cases of necrosis and compound fractures have been operated with success.

The part of the province is inhabited by people whose life is one long crusade against the furious flood, in consequence all that makes life happy is absent. Their houses, crops and cattle are constantly preyed upon and most of them literally live from hand to mouth. Being a flooded area where the stagnant water is left to be putrefied for several months it naturally becomes a breeding ground for flies, mosquitoes and a host of germs that make malaria and other fevers rage in epidemic form. Ordinarily malaria is a perennial danger but during the flood and post-flood months of July to December, it threatens to claim a heavy toll. It will be observed from the appendix that the malarial cases have considerably increased since last year. The numbers of cases in August were 643 as compared to 50 in the same month of the preceding year and in September is compared to 172 in September last. This October has an average of 250 per day being about 80% of the total number of patients which is certainly alarming. The unwholesome water is brought into all imaginable uses from drinking to washing and ablution and this accounts for the great number of cases of dysentery and skin diseases. The consumption of equally unwholesome food like sweet potatoes,

stones of mangoes, marua and other cereals of low vitamin tend to save their digestive system and banish the radiance of health from their face. Another result of this low vitamin is the prevalence of goitres. This is particularly noticed in villages bordering on the river Bur Gandak which seems to be deficient in iodine. A common feature of this area is the number of venereal diseases. The immense havoc played on the health of the succeeding generations by such congenital diseases is alarming indeed. Not only they result in arthritis, rheumatism, gout, paralysis and other nervous diseases but also in a remarkably large number of deformities chiefly of the legs and eyes. Again most of the deep and wide spread ulcer cases which frequent the operation-table by dozens every day are seen to derive their sources in congenital syphilis. Several cases of snake bites are reported in the beginning of the flood season. Over and above these are seasonal epidemics like cholera, small pox and influenza etc.

We feel that the curative work won by this and other dispensaries would be immediately supplemented by a preventive compaign. In the month of May an epidemic of cholera broke out in this area. We sent out volunteers in all quarters to disinfect wells and tanks and to teach the villagers preventive habits and it was possible to check the epidemic within a week so that 78 cases reported in May went down to only 3 in June. We feel that it would be a real aquisition to the public health of this area if responsible bodies like the Red Cross Society were to start an eductive movement to impart general directions of health and hygiene. If nothing a vigorous antimalarial campaign is overdue.

The necessity of a Charitable Dispensary like this need not be emphasised. This institution which as everyone knows was formed as a temporary relief measure. The B. C. R. C. has proposed to withdraw grants with effect from December 1935. If this dispensary is serving any useful purpose it is imperative to ensure its finances so that it may continue to do its services to the people of this area. We, therefore, appeal to all those who feel convinced of the necessity of this institution to accord suitable help in order to keep it alive and going. The Joint Committee for the Sonathi project has kindly sanctioned a plot of land in the new village where the dispensary is to be established. We are confident that we shall successfully persuade some other bodies to build the necessary premises.

The yearly expenses of this dispensary are as follows:—

Doctor's allowance	...	Rs. 600/-
Compounder's allowance	...	Rs. 240/-
Contingencies	...	Rs. 100/-
Servant's allowance	...	Rs. 192/-
Medicines	...	Rs. 1,000/-
	Total	Rs. 2,132/-

Several institutions and firms have helped us from time to time and our particular thanks are due to Dr. Ceresole for donating Rs. 90/- towards this fund, to the Indian Medical Association for sending us some instruments and medicines, to Messra Amin & Co., Bombay, Messrs. P. Banerjee & Co., Mihijam, for medicines.

Sd./- PHANINDRA NATH DUTTA,
Member, Behar Central Relief Committee.

MEDICO-LEGAL

USE OF TITLE 'SURGEON' ILLEGAL UNLESS REGISTERED

An appeal which raised the question whether a man who was not registered under the Medical Act, 1858, had committed an offence by describing himself as a " manipulative surgeon " was decided by the Lord Chief Jusice (Lord Hewart), and Justices Humphreys and Singleton in a King's Bench divisional court.

Summonses against Coptain Horace Barrow, of Belle Vue Road, Paignton, Devon, for " unlawfully, wilfully and falsely using the title 'surgeon,' " had been dismissed by the Paignton magistrates. They had held that Captain Barrow, who had practised as a manupulative surgeon for fifteen years had not acted unlawfully, as the title was used to describe his work or craft.

For the appellant, Mr. W. E. Jutson, it was stated that the law prohibited the use of the title "surgeon" by an unregistered person. Captain Barrow's contention was that the title " Manipulative surgeon " had been used for at least twenty years as representing a person not registered under the Act, and that the words were used to show that he could manipulate bones and joints for the purpose of healing.

The Court allowed the appeal and directed the magistrates to convict.

Lord Hewart, giving judgment, said it was proved or admitted that Captain Barrow after his name used the words " manipulative surgeon." He was similarly described in the telephone directory and on his motor-car. He was not registered under the Medical Act and his name had never appeared in the Medical Register, nor was he a qualified medical practitioner within the meaning of that Act.

It was contended on Captain Barrow's behalf that the words " manipulative surgeon " for over twenty years had been understood to mean a person not registered under the Medical Act and not recognised by law as a surgeon. Captain Barrow said that he used the title " manipulative surgeon " to direct attention to the fact that he was not a surgeon within the meaning of the statute. For Mr. Jutson it was contended that the statute contained an absolute prohibition against the use of the title of " surgeon " by an unregistered person and that the use of the word " manipulative " would not justify or legalise the use of the word " surgeon."

Captain Barrow even went so far as to say that, if any other name would properly describe his work, he would gladly adopt that name.

" It is quite obvious," said Lord Hewart, " that there are other names which would fulfil that purpose, as for example, the words ' manipulative healer.' Apparently he does not like the name " bone-setter," but his counsel seemed to be a little reconciled to the description ' manipulative healer.' "

After quoting the section of the Medical Act Lord Hewart said: " If a person is not a surgeon, he must not call himself a surgeon, and it seems to me to be quite idle to say that in his context the word ' surgeon ' is used to qualify or modify the word ' manipulative.' " Dental and veterinary surgeons were expressly protected by statute. If Captain Barrow desired to represent that he was not a qualified surgeon it was unfortunate that he chose the description " surgeon." The thing which made the name " surgeon " appear to be attractive and useful was precisely the thing the section was enacted to prevent.

It was clear that in law the magistrates had no alternative but to convict. The appeal must be allowed and the case sent back to the justices with a direction to find that the offence which charged had been proved. Justices Humphreys and Singleton concurred, and the appeal was allowed with costs. The justices' order awarding Captain Barrow fifty guineas' costs was quashed.

CORRESPONDENCE

The Editor is not responsible for views expressed in these columns.

To THE EDITOR,

Journal of the Indian Medical Association.

Sir,

May I request the favour of a little space for the following lines? I have read the notes of Major-General C. A. Sprawson, I.M.S., on the medical schools of India on page 182, January, 1936, of your Journal. These notes and the tabular statement sum up the position neatly and contain many useful suggestions. The improvement of training provided in the medical schools in this country is a question that has frequently been brought to the attention of the public and the authorities. I would try to bring to the notice of the readers of this Journal the condition of education in the Agra Medical School. The main defects there are overcrowding of students, ill equipment and inefficient staffing. I was a student of this School from 1st August, 1929 to 31st April, 1933, *i.e.*, for a period of 3—4 years. I feel the urgent necessity of increasing this course to complete five years and so I draw the attention of the authorities concerned to consider this question favourably. When I was a student of the First Year Class there was a lecturer who used to teach us Materia Medica and Physiology both. I think it is not a good practice as one cannot teach two subjects. He was also allowed private practice. When I was a student of the Second Year Class he was appointed I/C of the surgical out-door department and an emergency medical officer also I/C of the venereal diseases ward. When I was a student of the Third Year Class he used to give lectures on Midwifery and Gynæcology. He was in charge of Gynæcology out-door and Obstetric and Gynæcology wards. He was also allowed private practice. This he did for two years. This sort of practice was of great loss to the students. There was one lecturer who used to teach Hygiene and Public Health and also Medical Jurisprudence. He was also the Superintendent of the three medical hostels. And there are similar other instances. I appeal to the authorities concerned that only specialists in the subjects should teach one subject and they should not be allowed to do private practice.

The number of students in the Agra Medical School is much more than the accommodation. The microscopes are sufficient but below the standard of General Sprawson. The pass marks are 40%. The number of labour cases allowed to each student was ten. There is no electricity in the medical hostel. There is an Electro-Radio Therapeutic department, but the medical officer in charge of this department is also a demonstrator of Pathology. There is a big Ophthalmic ward and a good number of patients attend the ophthalmic out-door. A good many cataract operations are performed daily but at the time when the students are attending lectures in the class room. There is only one question on Eye Diseases in the Final Examination along with the surgery paper, so that the students neglect this very important subject.

A large number of patients attend the Ear, Nose and Throat department which is accommodated with the surgical department in a small verandah 7′ × 14′. There is one medical officer for both these departments. There is a great rush in both these departments. There are 3 or 4 students I/C of the whole department of Ear, Nose and Throat, and their main duty is to paint the throats and syringe the ears of nearly 150 patients daily. Dark room examination of the ear, nose and throat is seldom done due to the rush. There is no question of ear, nose and throat diseases in the Final Examination. In my time Captain D. P. Bhargava took great pains in improving the education of the School. Sometimes there is only one man who is the Principal of Agra Medical School and also the Civil Surgeon of the Thomson Hospital. The education at Agra can only be improved if the period of studies be increased to 5 years. The preliminary qualification for admission in the Medical School should be raised to Intermediate with Science. As there is only one medical school in the whole province of U. P., there is no reason why the Government should say every year that there is paucity of funds. The recommendations of Major-General Sprawson in the calling of a conference of the authorities of the medical school to discuss the question of improvement would greatly facilitate to bring the standard of the medical school to a higher minimum uniform standard.

In conclusion I request Major-General Sprawson to prepare such a tabular statement of the Medical Colleges of India, which will give an idea to the school authorities as to what extent the standard of the school is lower than an average College.

7th February, 1936. Yours etc.,

Ghaziabad, Balwant Rai Agarwal, L.S.M.F.

OBITUARY

SIR KEDARNATH DAS, KT., C.I.E., M.D.

The death occurred at his Calcutta residence on the 13th March last of Dr. Sir Kedarnath Das, KT., C.I.E., M.D., Principal of the Carmichæl Medical College, Calcutta, and a leading obstetrician and gynæcologist of all-India reputation. He had been keeping indifferent health for sometime past and was 69 years of age at the time of his death.

Born in 1867, the late Sir Kedarnath was the second son of late Jadab Krishna Das, an eminent educationist of his time. As a boy, Kedarnath showed talents indicative of a bright future. At school he was a regular prize winner and obtained a scholarship in the Entrance Examination. After passing his F. A., he joined the Calcutta Medical College and at once excelled his class-mates in examinations and hospital work. He won all his scholarships, prizes, medals and certificates always standing first.

Kedarnath stood first in the Final M.B. obtaining full marks in midwifery—a record yet unequalled. Sometime later he got his Doctorate degree from the Madras University. Soon after he was appointed the Medical and Surgical Registrar of the Calcutta Medical College and subsequently in 1899 the Teacher of Midwifery in the Campbell Medical School and Obstetrician and Gynæcologist to the Hospital which posts he held for over twenty years. After retirement from the Government Service he joined the Carmichæl Medical College as Professor of Midwifery and Gynæcology and later became its Principal. In recognition of his services the title of C.I.E. was conferred on him in 1918. He was knighted in 1933.

He donated Rs. 60,000/- to the funds of the Carmichæl Medical College and presented to it his valuable library of rare and uptodate books.

Not long ago Dr. Das represented India at the World Congress of Obstetrics and Gynæcology held in the United States of America.

Dr. Das was the Dean of the Faculty of Medicine, Calcutta University, a member of the Bengal Council of Medical Registration and of the Governing Body of the State Medical Faculty, Bengal, a fellow of the American Gynæcological Society and that of the British College of Obstetrics and Gynæcology.

Sir Kedarnath is survived by three sons and two daughters. We offer our condolence to the bereaved family.

ACKNOWLEDGMENTS

Books received for review :—

1. Practitioners' Library of Medicine & Surgery, Vol. IX, Butterworth & Co. (India), Ltd., Calcutta.
2. Maingot's Post-Graduate Surgery, Vol. I, Butterworth & Co. (India), Ltd., Calcutta.
3. Injection Therapy—By Dr. D. R. Prem M.R.C.S. (Eng.), L.R.C.P. (Lond.), 167, Vincent Road, Dadar, Bombay.